

AN EVALUATION OF ACCOUNTING METHODOLOGY
AS AN ACCENTUATING FACTOR IN
BUSINESS FLUCTUATIONS

By

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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF TABLES	vii
Chapter	
I. INTRODUCTION	1
Actual Business Fluctuations That Have Occurred in the United States According to the National Bureau of Economic Research	1
A Brief Statement of the Problem	2
Types of Business Fluctuations	4
Classification of Business Cycle Theories	10
Some Theories and Views of Dr. Fritz Schmidt	16
A Brief Reference to Writers Other Than F. Schmidt on the Subject of Accounting As an Accentuating Factor	20
The Purpose and General Plan of This Study	24
II. THE RELATIONSHIP OF ACCOUNTING PROFITS TO BUSINESS FLUCTUATIONS	41
Causes of Changes in the Level of Gross National Product	41
Business Investment As the Key Factor in Business Fluctuations	49
The Role of Accounting Profits in the Investment Process	62
Summary of Chapter	73
III. THE MISSTATEMENT OF PROFITS BY ACCOUNTANTS AS A REINFORCING FACTOR IN BUSINESS FLUCTUATIONS	75

Chapter		Page
	Postulates Underlying the Measurement of Accounting Profits	76
	Theories of the Origin of Profits	83
	The Problem of Measuring "Economic Profits"	88
	The Accountants' "Misstatement" of Profit	95
	The Effect of Accountants' "Misstatement" of Profit on Business Fluctuations	109
	Summary of the Chapter	117
IV.	ACCOUNTING INVENTORY VALUATION AND THE ACCENTUATION IN THE FLUCTUATION OF PROFITS	120
	The Influence of Inventories and Inventory Investment on Business Cycles	120
	Inventory Valuation and Profit Measurement	134
	The Usual Methods of Inventory Valuation Have Given Rise to "Inventory Profits" and "Inventory Losses"	153
	Summary of the Chapter	166
	Appendix	169
V.	A STATEMENT OF THE CONTROVERSIES OVER DEPRECIATION POLICY AND ITS EFFECT ON INVESTMENT DECISIONS	172
	The Problem of the Proper Depreciation Base	172
	The Cyclical Implications of the Time Shape of the Periodic Depreciation Charge	191
	The Quantitative Significance of the Mis- statement of Profits Due to Accounting Depreciation Methods	198
	Direct Effects of Depreciation Accounting on the Inducement to Invest	207
	Summary of Chapter	212
	A Tentative Conclusion on Accounting Methodology Via Investment Decisions As an Accentuating Factor in Business Fluctuations	214

Chapter		Page
VI. SOME FURTHER CONSIDERATIONS OF THE DETERMINANTS OF BUSINESS INVESTMENT DECISIONS		216
A Reconsideration of Profit Maximization		
As an Incentive in Investment Decisions		217
<u>Ex-Post Business Profits Versus Expected Business Profits As a Factor in Investment Decisions</u>		240
An Evaluation of the Argument That Businessmen Are Misled by Accounting Profits in Making Investment Decisions		249
Modification Introduced by Changes in Technology		262
Reported Profits After Federal Income Taxes and Investment Decisions		265
Some Further Considerations of the Effect of Accounting Profits on Investment Decisions Via Security Prices		271
An Evaluation of the Argument That Accelerated Depreciation Will Encourage a High Level of Investment		279
Tentative Conclusions on Accounting Profits As an Accentuating Factor in Business Fluctuations Via Business Investment Expenditures		288
VII. AN EVALUATION OF THE CYCLICAL EFFECTS OF ACCOUNTING METHODOLOGY ON DIVIDEND POLICY AND ON WAGES		293
An Evaluation of the Argument That Depreciation Allowances Have Adverse Effects on Consumption		294
An Evaluation of the Cyclical Effect of Accounting Methodology Via Dividend Policy		303
Conclusions on Accounting Profits, Dividend Policy, and Business Fluctuations		322
The Cyclical Effect of Accounting Methodology on Wage Policy		324
Conclusions on the Cyclical Effect of Accounting Methodology on Wage Policy		341

Chapter		Page
VIII. CYCLICAL IMPLICATIONS OF THE USE OF ACCOUNTING DATA IN BUSINESS PRICING DECISIONS		343
A Consideration of the Alleged Relationship of Accounting Methodology to Price		
Rigidity		343
An Evaluation of Cost-Plus Pricing As a Factor in Price Rigidity		352
An Evaluation of Price Inflexibility As an Accentuating Factor		365
Conclusions on the Cyclical Implications of the Effect of Accounting Methodology on Pricing Decisions		374
IX. A SUMMARY OF THE MAIN CONCLUSIONS		377
BIBLIOGRAPHY		388
BIOGRAPHICAL SKETCH		413

LIST OF TABLES

Table		Page
1.	Reference Dates of Business Cycles in the United States	3
2.	Selected Indicators of Business Trends, 1919-48	30
3.	Gross National Product and the Percentage Distribution of its Components, 1929-54	50
4.	Changes in the Volume of Manufacturing Production in the United States, 1927-32	52
5.	Book vs. Real Economic Earnings of 3 Major Manufacturers of Electrical Products Total Earnings Available for Interest and Dividends, 1935-48	106
6.	Corporate Sales, Profit, and Estimated Misstatement of Profits Due to Accounting Methods	108
7.	Net Change in Non-Farm Business Inventories, 1929-54	126
8.	Behavior of Cost of Goods Sold with Fluctuating Prices Under Lifo and Fifo	139
9.	Inventories--Basis of Pricing, 1946-52	157
10.	Inventories--Methods of Determining Cost, 1945-1952	159
11.	Lifo Inventory Cost Method Changes During the Year, 1949-52	161

Table		Page
12.	Estimates of Lifo Inventories for Manufacturing Industries, Year-end, 1951, and Year-end, 1947	162
13.	Use of Lifo Method of Inventory Valuation in Different Sized Companies	163
14.	Misstatement of Corporate Profits Due to Accounting Inventory Valuation, 1897-1954	165
15.	Companies Recognizing High Replacement Costs in 1947 Financial Statements, by Asset Size	186
16.	Relation of Special Charge for Higher Replacement Costs to Normal Depreciation Charge	187
17.	Number of Corporations Reporting Revaluations of Fixed Assets, 1925-34	200
18.	Amount of Write-ups and Write-downs, Property, Plant, and Equipment, 1925-34	200
19.	Ratio of Depreciation Charges Estimated from Income Accounts to Those Estimated from Output of Capital Goods	202
20.	Corporate Depreciation Adjustment 1897 to 1949, Exclusive of Transportation and Public Utilities	203
21.	Depreciation Charges Expressed in Terms of Original Cost and Reproduction Cost, 1919-1935, All Corporations in the United States	205
22.	Quantification of Reasons Given for Expansion of Manufacturing Plant	231
23.	Frequency Distribution of Explanatory Factors for Changes in Investment Plans, 305 Manufacturing Firms, 1949	234
24.	Relation Between Expansion Plans and the Evaluation of Current Business Conditions	246

Table		Page
25.	Relation Between Expansion Plans and the Evaluation of Business Prospects	247
26.	Hypothetical Comparison of Profits After Taxes under Traditional Accounting Methods and the Lifo Principle	268
27.	A Comparison of Corporate (Non-Farm) Expenditures on Plant and Equipment with Depreciation Allowances	283
28.	A Comparison of "Earned Depreciation" with Corporate Expenditures on Plant and Equipment, 1929-49	300
29.	A Comparison of Corporate Profits and Corporate Dividends, 1919-53	311
30.	A Comparison of the Misstatement of Corporate Accounting Profits with Retained Earnings, 1929-49	313
31.	Factors Considered by Union Leaders in Wage Aims of 1947 and 1948	331
32.	Major Factors Considered in Management's Wage Proposals, 1947 and 1948	336
33.	Degree of Adherence to Full Cost Principle	358
34.	Occasions on Which a Departure from the Full Cost Principle in a Downward Direction Might Be Made	359
35.	Factors Used in Pricing	361
36.	Companies Considering Current Replacement Costs in Product Pricing	363

CHAPTER I

INTRODUCTION

Actual Business Fluctuations That Have Occurred in the United States According to the National Bureau of Economic Research

When one studies a time series of any of the numerous economic barometers, such as the gross national product or the number of people employed, he is impressed with its fluctuations. One modern writer has summed up the situation aptly in these words: ". . . the course of business, like true love, is not smooth."¹ "Crises" in the sense of serious trade disturbances are just as old as trade itself.² Business fluctuations as we know them, however, had to await what Mitchell calls a "business economy"³ which is characterized by him as the "practice of money-making and money-spending by the population as a whole."⁴

¹ James Arthur Estey, Business Cycles (New York: Prentice-Hall, Inc., 1946), p. 3.

² Wesley C. Mitchell, Business Cycles: The Problem and Its Setting (New York: National Bureau of Economic Research, 1927), p. 80.

³ Ibid., p. 63.

⁴ Ibid.

Business fluctuations in the modern sense, and efforts to explain them, do not seem to have antedated the Napoleonic Wars.⁵ The experience with them in the United States is even more recent. Snyder speaks of only rudimentary experience up to the 1840's⁶ and dates them "unmistakably" from about the late 1860's.⁷ Table I gives the reference dates of business cycles in the United States from 1854 to 1949 according to the National Bureau of Economic Research.

A Brief Statement of the Problem

Among the many theories that have been advanced as explanations of these business fluctuations is a relatively obscure one which assigns to accounting methodology a rather prominent role. In the present study an attempt will be made: (1) to determine how accounting methodology is alleged to accentuate business fluctuations, (2) to ascertain which specific accounting techniques are said to contribute to business fluctuations, (3) to derive the assumptions inherent in the arguments, and (4) to examine the assumptions to see if they seem realistic in the light of present-day knowledge of economic behavior.

⁵Ibid., p. 3.

⁶Carl Snyder, Business Cycles and Business Movements (New York: The Macmillan Company, 1927), p. 13.

⁷Ibid., p. 17.

TABLE I

REFERENCE DATES OF BUSINESS CYCLES
IN THE UNITED STATES*

Peak	Trough
June, 1857	December, 1854
October, 1860	December, 1858
April, 1865	June, 1861
June, 1869	December, 1867
October, 1873	December, 1870
March, 1882	March, 1879
March, 1887	May, 1885
July, 1890	April, 1888
January, 1893	May, 1891
December, 1895	June, 1894
June, 1899	June, 1897
September, 1902	December, 1900
May, 1907	August, 1904
January, 1910	June, 1908
January, 1913	January, 1912
August, 1918	December, 1914
January, 1920	April, 1919
May, 1923	September, 1921
October, 1926	July, 1924
June, 1929	December, 1927
May, 1937	March, 1933
February, 1945	May, 1938
November, 1948	October, 1945
	October, 1949

*Source: June, 1857 to May, 1938--Arthur F. Burns and Wesley C. Mitchell, Measuring Business Cycles (New York: National Bureau of Economic Research, 1947), p. 78.

February, 1945 to October, 1949--Herbert V. Prochnow (ed.) Determining the Business Outlook (New York: Harper and Brothers, Publishers, 1954), p. 39.

Types of Business Fluctuations

Seasonal fluctuations. --Students of business fluctuations have distinguished different types of fluctuations and have analyzed time series in an effort to isolate each different type of fluctuation. The most familiar of these types is the seasonal fluctuation. Estey defines seasonal fluctuations as variations that take place within a calendar year.⁸ Seasonal variations result from one or both of two influences: (1) the yearly cycle of weather; and (2) custom or the traditional use of goods in conventional observance of social seasons.⁹

The secular trend. --A trend may be defined as a continued and continuous movement of the data of any activity in a recognizable direction over a period of time that is long relative to the business cycle.¹⁰ The secular trend is the fundamental movement around which the other movements fluctuate. Haberler attributes much of the trend movement to the natural consequence of population growth.¹¹ Estey¹² adds two

⁸Estey, op. cit., p. 4.

⁹Elmer Bratt, Business Cycles and Forecasting (Chicago: Richard D. Irwin, Inc., 1948), p. 8.

¹⁰Estey, op. cit., p. 6.

¹¹Gottfried Haberler, Prosperity and Depression (Lake Success, New York: United Nations, 1946), p. 271.

¹²Estey, op. cit., p. 6.

other influences: (1) increasing economic efficiency through education, invention, improvements in technique, etc., and (2) the gradual growth of accumulated wealth and productive capital.

Business cycles. --Even when the secular trend and seasonal influences have been eliminated, there remain other economic fluctuations in a time series. These remaining fluctuations have come to be known as "business cycles". Business cycles have been further separated into major, or Juglar,¹³ cycles and minor, or Kitchin,¹⁴ cycles. Kitchin suggested that minor cycles averaged three and one-third years (forty months) in length and that major cycles were merely aggregates of two, and "less seldom" of three, minor cycles.¹⁵ Mitchell has computed the average duration of Juglars in the United States as eight and six-sevenths years and of Kitchins as four years.¹⁶

While in the United States the term "business cycle," as used, encompasses both Kitchins and Juglars, in Europe the term "business

¹³ After Clement Juglar who wrote the first large-scale work devoted exclusively to commercial crises, Des Crises Commerciales et de leur retour periodique en France, en Angleterre et aux Etats-Unis, in 1860.

¹⁴ After Joseph Kitchin.

¹⁵ Joseph Kitchin, "Cycles and Trends in Economic Factors." The Review of Economic Statistics, January, 1923, p. 10.

¹⁶ Mitchell, op. cit., p. 388.

"cycle" or "trade cycle" refers to Juglars.¹⁷ Probably the most widely quoted definition of business cycles is that of Mitchell: ". . . they are recurrences of rise and decline in activity, affecting most of the economic processes of communities with well-developed business organization, not divisible into waves of amplitude nearly equal to their own, and averaging in communities at different stages of economic development from about three to six or seven years in duration."¹⁸ Gordon in his definition puts emphasis on the self-reinforcing element in business cycles and omits any reference to the duration of a cycle: ". . . Business cycles consist of recurring alternations of expansion and contraction in aggregate economic activity, the alternating movements in each direction being self-reinforcing and pervading virtually all parts of the economy. . . ."¹⁹

The Kondratieff cycle. --In addition to the existence of the business fluctuations previously mentioned, on which there is virtually unanimous agreement among economists, a Russian economist, Nikolai D. Kondratieff, has found evidence of a long cycle with an average length

¹⁷ Alvin H. Hansen, Fiscal Policy and Business Cycles (New York: W. W. Norton and Company, Inc., 1941), p. 16.

¹⁸ Mitchell, op. cit., p. 468.

¹⁹ Robert Aaron Gordon, Business Fluctuations (New York: Harper and Brothers, Publishers, 1952), p. 214.

of about fifty years: "There is, indeed, reason to assume the existence of long waves of an average length of about 50 years in the capitalistic economy, a fact which still further complicates the problem of economic dynamics."²⁰ According to Kondratieff, these waves range in duration from forty-seven to sixty years.²¹ His conclusions were based on observations covering one hundred and forty years which comprised about two and one half cycles.²²

Schumpeter has incorporated the Kitchins, Juglars, and Kondratieffs into what he refers to as a "three-cycle schema" of economic change. A Kondratieff contains six cycles of from nine to ten years which he calls "Juglar cycles". Every Juglar contains, in turn, three cycles of roughly forty months each which he calls "Kitchins".²³ Most business cycle theorists have not accepted the existence of the Kondratieff since they consider two and one-half cycles as insufficient to establish periodicity²⁴ and point out that different statistical

²⁰ N. D. Kondratieff, "The Long Waves in Economic Life," The Review of Economic Statistics, November, 1935, p. 105.

²¹ Ibid., p. 107.

²² Ibid., p. 111.

²³ Joseph A. Schumpeter, "The Analysis of Economic Change," The Review of Economic Statistics, May, 1935, p. 8. See also his Business Cycles (New York: McGraw-Hill, Inc., 1939), I, 173 f.

²⁴ Estey, op. cit., p. 21; also, Haberler, op. cit., p. 274.

investigators of the long cycle have reached widely divergent conclusions.²⁵

Schumpeter himself acknowledges that the majority of students of the cycle do not consider the evidence of the Kondratieff to be "sufficient to establish this particular cycle."²⁶

The interrelation of the types of business fluctuations. -- In directing attention to these different fluctuations, it must not be forgotten that all types are interrelated. In the words of two men in the best position to know:

It is fairly common for statisticians to assume that the elimination of the secular trend from a time series indicates what the course of the series would have been in the absence of secular movements, and that the graduation of a time series, whether in original or trend-adjusted form, indicates what the course of the series would have been in the absence of random movements. There is no warrant for such simple interpretations. . . .²⁷

Cyclical forces do influence trends and, in turn, the kind of trend we choose to eliminate helps to determine the shape of the resulting cyclical fluctuations.²⁸ The level of economic activity at any given time is partially a product of past cyclical instability and the expectation of future cyclical fluctuations.²⁹

²⁵ Arthur F. Burns and Wesley C. Mitchell, Measuring Business Cycles (New York: National Bureau of Economic Research, 1947), p. 465.

²⁶ Schumpeter, The Review of Economic Statistics, op. cit., p. 8.

²⁷ Burns and Mitchell, op. cit., p. 38.

²⁸ Gordon, op. cit., p. 218.

²⁹ Ibid., p. 221.

Although business cycles are recurring, they are not periodic in the strict sense of the word since individual cycles vary in both amplitude and duration. This uniqueness of the individual cycle is mentioned by many business cycle writers.³⁰ Haberler sums up the individuality of each cycle in these words:

In a sense, each cycle is an historical individual; each is embedded in a social-economic structure of its own. Technological knowledge, methods of production, degree of capital-intensity, number, quality and age-distribution of the population, habits and preferences of consumers, social institutions in the widest sense including the legal framework of society, practice in the matter of intervention of the state and other public bodies in the economic sphere, habits of payment, banking practices and so forth--all these factors change continuously, and are not exactly the same in any two cases. . . .³¹

In fact, some writers have raised the question as to whether the word "cycle" should even be used to describe these phenomena. Roose, for example, has stated: "Because of the complex, somewhat fortuitous, conjunction of factors in a fluctuation there would seem to be no such thing as a business cycle, in the sense of a periodic recurrence of business fluctuations in which the same causal factors are present in relatively the same proportion and to the same degree. . . ."³²

³⁰e.g., Schumpeter, The Review of Economic Statistics, op. cit., p. 2; W. C. Mitchell, "Business Cycles," Readings in Business Cycle Theory (Philadelphia: The Blakiston Company, 1944), p. 44; and Gordon, op. cit., p. 452.

³¹Haberler, op. cit., p. 275.

³²Kenneth D. Roose, The Economics of Recessions and Revival (New Haven: Yale University Press, 1954), p. 245; see also Hansen, op. cit., p. 14.

The term "business fluctuations" in the title of this study is thus used advisedly. "Fluctuations" was chosen over "cycles" for three reasons: (1) Each so-called cycle has unique features; (2) the different movements are so interrelated that it is impossible to isolate completely the Juglars and Kitchens from the other fluctuations in a time series; and (3) in the discussion of certain aspects of depreciation, the discussion will encompass a time span longer than that covered by the typical business cycle as defined by Mitchell. With few exceptions, however, the subsequent discussion will relate primarily to the business cycle as defined above by Gordon.

Classification of Business Cycle Theories

Difficulty of classification. --There is a multiplicity of explanations of the causes of business fluctuations. Any explanation which tries to explain the cause is suspect.³³ Many of the theories, when compared one with the other, turn out to differ in emphasis only. Each theory stresses a dominant factor and takes the other factors for granted, assumes that they hold constant, or cannot be changed, or neglects them. Numerous classifications of the various theories have been made in order to facilitate systematic study.³⁴ There is a great

³³ Haberler, op. cit., p. 5.

³⁴ See Mitchell, op. cit., pp. 49-53; Alvin H. Hansen, Business Cycle Theory (New York: Ginn and Co., 1927), pp. 191-196;

deal of overlapping in any of the classification schemes. While no detailed classification is needed here, general categories should be indicated in order to focus attention on the concepts that will be discussed later.

Exogenous versus endogenous theories. --Probably the most common breakdown is one that makes a distinction between theories which seek the principal cause in factors external to the economic system and those theories which look for the chief cause inside the system itself. To the former group of theories the term "exogenous" is applied; the latter are referred to as the "endogenous" theories. "Exogenous theories place primary emphasis upon changes in the data; endogenous theories upon the lagged reactions of the economic structure. . . to such changes."³⁵ The exogenous theories attribute the initiating force to such things as wars, meteorological phenomena, and innovations and inventions. The adherents of the endogenous theories, while admitting the importance of these "outside" forces, emphasize such self-generating and self-reinforcing factors as the elasticity of the monetary system, the

Warren M. Pearson, "Theories of Business Fluctuations," The Quarterly Journal of Economics, November, 1936, pp. 94-128; and Malcolm P. McNair, "Business Cycle Theories: Some Comments for the Layman," Business and Modern Society, ed. by Malcolm P. McNair and Howard T. Lewis (Cambridge: Harvard University Press, 1938), pp. 191-233.

³⁵ Alvin H. Hansen, Business Cycles and National Income (New York: W. W. Norton and Co., 1951), p. 412.

lack of balance between consumption and investment, and the profit motive. One writer has summed up his position in these words: "But the depression is essentially a business affair. It is affected, to be sure, by acts of God, by wars, and political upheavals, but it stubbornly persists as an endemic condition in the business organism. . . ."³⁶ The holders of the endogenous theories emphasize the inherent instability of the economic system. As Clark says: ". . . their (businessmen's) actual interests lie in doing the things which bring on the cycle, so long as they are acting as individual business men or representatives of individual business interests. . . ."³⁷ With few exceptions, however, no theory is wholly endogenous nor exogenous.³⁸ Haberler believes that a wholly exogenous theory is impossible.³⁹

Real (or economic) versus psychological theories. --Another distinction frequently made is that between the real, or economic, as opposed to the psychological factors. Estey differentiates between real and psychological causes of the cycle as follows: "Real causes are

³⁶ Henry B. Arthur, "Something Business Can Do About Depressions," The Journal of Accountancy, January, 1939, p. 7.

³⁷ John Maurice Clark, Strategic Factors in Business Cycles (New York: National Bureau of Economic Research, 1935), p. 164, parentheses, the author's.

³⁸ Haberler, op. cit., p. 9.

³⁹ Ibid.

changes in actual economic conditions capable of setting up cycle fluctuations,"⁴⁰ while "psychological causes arise from changes in men's attitudes of mind toward actual economic conditions."⁴¹ Fundamentally, therefore, "psychological causes arise from mistakes or errors of judgment. . . ."⁴²

The advocates of the psychological theories make much of "errors of optimism and pessimism"⁴³ and "expectations". If people are led to increase output by excessive expectations of a favorable market, they will eventually be disappointed, and will have to reduce output below normal. If output is curtailed through excessive expectations of adverse markets, there will be a shortage and output must be increased to meet it.

However, no hard and fast line can be drawn between the "real" theories and the "psychological" theories. There is no fundamental difference in the two. Both make assumptions as to economic behavior in certain situations. The distinction between the "psychological" theories and the "real" theories is thus "a distinction of emphasis rather than kind."⁴⁴

⁴⁰ Estey, op. cit., p. 154.

⁴¹ Ibid.

⁴² Ibid., p. 197.

⁴³ A. C. Pigou, Industrial Fluctuations (London: Macmillan and Co., Limited, 1929), chap. VII.

⁴⁴ Haberler, op. cit., p. 143.

Monetary versus non-monetary theories. --Another distinction frequently made is that between the monetary and the non-monetary theories. Hawtrey is the best known representative of those who think the cycle is primarily a monetary phenomenon. "The monetary theory of the trade cycle includes two principal theses: (1) that certain monetary or credit movements are necessary and sufficient conditions of the observed phenomena of the trade cycle, and (2) that the periodicity of these phenomena can be explained by purely monetary tendencies which cause the movements to take place in succession and to be spread over a considerable period of years."⁴⁵ In maintaining that the trade cycle is basically monetary, Hawtrey does not completely ignore the non-monetary influences.

According to the monetary theorists, non-monetary influences may initiate business fluctuations but these movements do not result in alternating periods of expansion and contraction.⁴⁶ Hamberg has summarized Hawtrey's theories thusly:

In summary, the basis of the trade cycle is the inherent instability of credit. Activity causes credit expansion, credit expansion increases demand, demand evokes greater activity. Depression

⁴⁵R. G. Hawtrey, "The Monetary Theory of the Trade Cycle and Its Statistical Test," The Quarterly Journal of Economics, May, 1927, p. 472.

⁴⁶Asher Achinstein, Introduction to Business Cycles (New York: Thomas Y. Crowell Company, 1950), p. 30.

damps down borrowing, diminished borrowing brings with it curtailed demand, curtailed demand means more depression.⁴⁷

Other economists agree that business cycles as we know them cannot be explained in the absence of monetary factors and that the money and credit system is an "indispensable contributing cause."⁴⁸ They do not agree with Hawtrey, however, that monetary factors are always a "sufficient" cause to explain the cycle. Other factors are necessary to explain the phenomena.

The eclectic view of business fluctuations. --It has become apparent in recent years that the economic system is so complex and that past business fluctuations have varied so widely in both amplitude and duration that no one theory nor one group of theories is capable of completely explaining their occurrence. The eclectic viewpoint accepts pertinent parts of all the theories and uses them to construct a "model cycle" from which individual cycles are expected to vary depending upon the combination of environmental factors. It is, in effect, a synthesis of the various viewpoints.

While recognizing the uniqueness of each cycle, holders of this view also recognize certain characteristics that are common to most

⁴⁷D. Hamberg, Business Cycles (New York: The Macmillan Company, 1950), p. 198.

⁴⁸Estey, op. cit., p. 233.

cycles: the expansion and supply of bank credit, the waves of optimism and pessimism, the relatively greater fluctuations in durable goods production, and the disparate movements in costs and prices.⁴⁹ This view of business fluctuations has been exemplified by such writers as W. C. Mitchell,⁵⁰ Thorstein Veblen,⁵¹ J. M. Clark,⁵² Sumner H. Slichter,⁵³ and Leonard P. Ayres.⁵⁴

Some Theories and Views of
Dr. Fritz Schmidt

In 1927, Dr. Fritz Schmidt, Professor of Business Administration, University of Frankfort, Frankfort-on-Main, Germany, wrote a series of three articles published under the title of Die Industriekonjunktur--ein Rechenfehler⁵⁵ (The Business Cycle--An Error in

⁴⁹ For a more complete list of factors on which there is general agreement see, American Economic Association, "The Problem of Economic Instability," A Report Prepared by a Subcommittee of the Committee on Public Issues, The American Economic Review, XL (1950), 509 f.

⁵⁰ Mitchell, op. cit.

⁵¹ Thorstein Veblen, The Theory of Business Enterprise (New York: Charles Scribner's Sons, 1904).

⁵² Clark, op. cit.

⁵³ Sumner H. Slichter, Towards Stability (New York: Henry Holt and Company, 1934).

⁵⁴ Leonard P. Ayres, Turning Points in Business Cycles (New York: The Macmillan Company, 1939).

⁵⁵ Published also under one cover as "Die Industriekonjunktur--ein Rechenfehler!" Zeitschrift für Betriebswirtschaft, 2. Sonderheft 1927.

Calculation). A large part of these articles was concerned with the causes of business fluctuations which Dr. Schmidt attributed to lack of stability in the monetary unit that must do double duty as a store of value and a medium of exchange.⁵⁶ Following are Schmidt's words:

Damit haben wir den Rechenfehler eindeutig klargestellt, der die Ursache der Industriekonjunktur ist. In Zeiten steigender Werte verrechnen die Unternehmer die Wertsteigerung auf die Kostenteile zwischen Anschaffungs- und Unsatzttag als Gewinn und damit als Einkommen, wandeln also Volksvermögen in Einkommen um und erhöhen damit die verfügbare Kaufkraft derart, das aus ihr übermäßige Nachfrage nach Gütern herauswächst, die neue Wertsteigerung bedingt. In der Krise wird die infolge übermassiger Ausdehnung der Betriebe und ihrer Produktion eintretende Preissenkung durch die Verrechnung von Scheinkosten als Scheine vermögensersatz von Erlös gekürzt. Damit mindert man die Gewinne und das Einkommen so stark, dass die im Gütermarkte verfügbare geringere Kaufkraft eine übermäßige Preissenkung herbeiführt, die erst allmählich durch die zunehmende Geldflüssigkeit wieder behoben wird.⁵⁷

⁵⁶ Ernest Stern and Paul Kircher, "And From Germany: The Problem of the Businessman Who Recognizes the Effect on His Business of Monetary Fluctuations," The Journal of Accountancy, March, 1949, p. 235.

⁵⁷ "With this we simply have made clear the error in calculation which is the cause of the business cycle. In times of rising values the entrepreneurs count the increase in value of cost between the day of purchase and of sale (turnover) as profit and thereby as income, change therefore national wealth into income and thereby increase the available purchasing power to the extent that out of it grows an excessive demand for goods, which causes new increases in value. In the crisis the appearing price reduction due to excessive expansion of factories and its production is deducted from sales proceeds by counting fictitious cost as fictitious replacement of wealth. Thereby one reduces the profits and the income so strongly that the smaller purchasing power available in the market for goods brings about an excessive decrease in prices which is only gradually lifted through increasing liquidity of money." Zeitschrift für Betriebswirtschaft, op. cit., p. 72.

Schmidt puts the blame on accounting which does not reflect these changes in the value of money separate from operating profits. Schmidt expresses this idea as follows: "Als die eine Ursache, die alle Erscheinungen zu erklären vermag, sehen wir hier die Mischung von Vermögenswertänderung und nicht realisiertem Spekulationsgewinn mit dem Umsatzerfolge der Unternehmungen in den Betriebsrechnungen."⁵⁸ In a later article Schmidt came even closer to assigning the principal cause of business cycles to wrong methods of accounting: "It is certain that the development of business cycles, as far as general economic conditions are their cause, would be practically obviated if wrong accounting methods, basing depreciation on original costs, could be eliminated. . . ."⁵⁹ Although Schmidt says that recovery is sure to follow hard times, "between the sharp crisis and this recovery lies one or several years of economic misery and this largely, and perhaps, only, as a result of wrong calculation. . . ."⁶⁰ Thus, the whole problem culminates in this task: "How can changes in values in assets be handled

⁵⁸ "As the one cause which is able to explain all aspects we see here the mixing in the accounting of business change in value of wealth and un-realized speculation profits with sales proceeds." Ibid., p. 95.

⁵⁹ Fritz Schmidt, "The Basis of Depreciation Charges," Harvard Business Review, April, 1930, p. 262.

⁶⁰ Ibid., p. 263.

so that they are reflected in the calculation of wealth (balance-sheet) and not appear in the calculation of income (profit-and-loss-statement)?"⁶¹

Furthermore, Schmidt thinks that accounting methods tend to perpetuate fluctuations in business activity. Speaking of the practice of charging past costs to production during the downswing, Schmidt says:

Production is stagnating, trade is dull, although accounting at present-day cost prices would show that it is possible to make profits on each sale above the cost value of the selling day. The consequences furthermore are unemployment, and failures and liquidations, which could often be avoided by right accounting. . . . Each newly occurring price fluctuation leads by way of the accounting of apparent profits and apparent losses to new frictions in the economic equilibrium. . . ."⁶²

It is not by accident that a German writer on business cycles should give a central role to the method of calculation of business profits. In the years following the First World War Germany experienced the most devastating inflation of any modern industrial nation. From January, 1914, to November, 1923, the German mark depreciated to the point where a 1923 mark was worth only one trillionth of a 1914 mark,⁶³ and in November, 1923, the paper mark exchanged at the rate

⁶¹ Stern and Kircher, op. cit., p. 235.

⁶² F. Schmidt, "The Valuation of Fixed Assets in Financial Statements," Proceedings of the International Congress on Accounting, 1929, p. 17.

⁶³ Henry W. Sweeney, "Effect of Inflation on German Accounting," The Journal of Accountancy, March, 1927, p. 180.

of 4,200,000,000,000 to the dollar.⁶⁴ This extreme inflation rendered useless the accounting results obtained by orthodox methods.⁶⁵

That Schmidt believed, however, that accounting methodology was distorting even in a more moderate inflation is shown by these words:

Even in the United States where the gold standard has been upheld, there was between the years 1914 and 1920, a strong rise of selling and cost prices. It seems certain that most of the showing of these was a false prosperity and nothing but the result of wrong accounting.⁶⁶

A Brief Reference to Writers Other Than
F. Schmidt on the Subject of Accounting
As an Accentuating Factor

While Schmidt was the first writer to attempt to integrate the effects of accounting techniques into business cycle theory, it had already been recognized that the assumption of a stable monetary unit caused distortion in accounting statements during periods of shifting price levels. In the United States before the First World War arguments over

⁶⁴Carl F. Schmidt, German Business Cycles 1914-1933 (New York: National Bureau of Economic Research, 1934), p. 11.

⁶⁵Henry W. Sweeney, "German Inflation Accounting," The Journal of Accountancy, February, 1928, p. 104.

⁶⁶Fritz Schmidt, "Is Appreciation Profit?" The Accounting Review, December, 1931, p. 290.

changing price levels and their effect upon profit determination were largely academic due to the stability of the pre-war price level.⁶⁷ In the early post-war period, traditional accounting methods as a result of these drastic price changes, came under fire by businessmen, economists, and even some accountants themselves.⁶⁸

Wesley C. Mitchell in an address in January, 1923, stated concerning accountants: ". . . But your problem has an especially important part to play in guiding business men because you are especially concerned with ascertaining the facts that are of crucial importance in guiding their decisions--the facts relative to profits."⁶⁹ In the same speech Mitchell pointed out the need for "men of trained minds conversant with actual business experience (to study business cycles). Need I say that accountants constitute such a group and that the possession of these qualities confers upon them an obligation to take an active

⁶⁷Orton W. Boyd, "Valuation for Profit Determination," Papers and Proceedings of the Eighth Annual Meeting of the American Association of University Instructors in Accounting (Columbus, Ohio: The Association, 1923), p. 86.

⁶⁸See, Livingston Middleditch, "Should Accounts Reflect the Changing Value of the Dollar?" The Journal of Accountancy, February, 1918, pp. 114-120; John Bauer, "Renewal Costs and Business Profits in Relation to Rising Prices," The Journal of Accountancy, December, 1919, pp. 413-419; W. A. Paton, "Depreciation, Appreciation and Productive Capacity," The Journal of Accountancy, July, 1920, pp. 1-11.

⁶⁹Wesley C. Mitchell, "Accountants and Economics with Reference to the Business Cycle," The Journal of Accountancy, March, 1923, p. 161.

share in the effort to control the business cycle.⁷⁰

A. C. Littleton in an address before the American Association of University Instructors in Accounting in December, 1924, also discussed the relation of accounting to the business cycle.⁷¹ His plea was for accountants to learn about the business cycle in order to advise their clients how to adapt themselves to it. He mentioned "normal burden" and "normal inventory" as adaptations to the cycle. He spoke hopefully: "Perhaps they (accountants) may eventually acquire some degree of skill in anticipating coming changes; and when that time comes for any considerable number, the time will be at hand when a material stabilization of the courses of business may be expected as a result."⁷²

While no writer since Schmidt has written a comprehensive treatise on the subject,⁷³ the idea that accounting methodology

⁷⁰ Ibid., p. 167. Words in parentheses, the author's.

⁷¹ A. C. Littleton, "The Relation of Accounting to the Business Cycle," Papers and Proceedings of the Ninth Annual Meeting of the American Association of University Instructors in Accounting (Chicago: The Association, 1924), pp. 108-116.

⁷² Ibid., pp. 115 f. Words in parentheses, the author's.

⁷³ K. Lacey, Profit Measurement and Price Changes (London: Sir Isaac Pitman and Sons, Ltd., 1952) might be considered a possible exception to this statement. However, only the first forty pages (out of a total of one hundred twenty-five pages) of Mr. Lacey's book deals with the possible effects of accounting on business fluctuations. The remainder of the book deals with suggested reforms, both for improving the reporting of profits, and for income taxation.

accentuates business fluctuations has persisted in accounting and economic literature down to the present time.⁷⁴ There are, to be sure, some protests against the viewpoint that accounting methods accentuate business fluctuations.⁷⁵ The writers on the subject, with the exception of Schmidt, do not insist that accounting methodology causes business fluctuations, but hold that they do accentuate them. Froehlich, for example, states:

The analysis of different income concepts held by enterprises and the influence on reinvestment must not and does not imply that cycles are caused by employing certain concepts. . . . In fact, such a theory must presuppose that for reasons other than the

⁷⁴See for example: John B. Canning, "A Certain Erratic Tendency in Accountants' Income Procedure," Econometrica, I(1933), 52-62; Norman S. Buchanan, The Economics of Corporate Enterprise (New York: Henry Holt and Company, 1940), pp. 225-230; Norman S. Buchanan, "Toward a Theory of Fluctuations in Business Profits," The American Economic Review, December, 1941, pp. 731-753; Edwin G. Nourse, Price Making in a Democracy (Washington: The Brookings Institution, 1944), especially pp. 328 ff., 372, 383; K. Lacey, "Profit Measurement and the Trade Cycle," The Economic Journal, December, 1947, pp. 456-474; R. A. Gordon, "Short-Period Price Determination in Theory and Practice," The American Economic Review, June, 1948, pp. 265-288; Walter Adams, "Accounting Practices and the Business Cycle," The Journal of Business, April, 1949, pp. 119-133; and W. T. Baxter, "The Accountant's Contribution to the Trade Cycle," Economica, May, 1955, pp. 99-112.

⁷⁵Two of the best that have come to the author's attention are: H. W. Singer, "Profit Measurement and the Trade Cycle," The Economic Journal, December, 1948, pp. 594-596; and A. R. Prest, "Replacement Cost Depreciation," Accounting Research, I (November, 1948 - July, 1950) 358-402.

influence of 'false accounting' prices rise and, therefore, accounting might be misleading. . . ."⁷⁶

Canning expresses a similar viewpoint: ". . . Erratic accounting does not generate business cycles, but, given an external generating impetus, belief in the accountants' figures leads to action that must increase the amplitude of the business cycle swings. . . ."⁷⁷

The Purpose and General Plan of This Study

Criticism of past writings on the effects of accounting methods on business fluctuations. --It is believed by the writer that the discussion of the relationship of accounting methods to business fluctuations as found in the literature is very naive as to assumptions, and that the treatment of the subject is inadequate. The reasoning is mainly a priori and practically no effort has been made to test the theories in the "real world". Scarcely any of the proponents of the theories have taken into consideration the institutional framework within which present-day business operates. Little attention has been given, for example, to the question of whether the market structure, in which businesses large enough to affect the cycle operate, would make a difference in evaluating

⁷⁶ Walter Froehlich, "The Role of Income Determination in Re-investment and Investment," The American Economic Review, March, 1948, p. 84.

⁷⁷ Canning, op. cit., p. 61.

the effect of accounting methodology on the business cycle. Likewise, little attention has been given to the relative importance of the two components of net profit (sales and expenses) in determining investment decisions and, in turn, the influence of the accountant on the misstatement of these two components.⁷⁸

The writers have made practically no effort to state the inherent assumptions underlying their theories, much less to ask if these assumptions are realistic within the present institutional framework of the economy. Fact and fancy are so interwoven as to be indistinguishable. As a result, later writers have taken for granted that accounting methods do accentuate the cycle instead of merely accepting it as an hypothesis. This is well illustrated by the following quotation: ". . . The first-in first-out method of charging operations for the cost of short-term inventories and for the allocations of longer term plant and equipment has greatly added to the height of the 'booms' and to the depth of 'busts'. . . ."⁷⁹

The purpose of this study. --The primary purpose of this study

⁷⁸ For a notable exception to the last two statements, see, Norman S. Buchanan, "Anticipations and Industrial Investment Decisions," The American Economic Review, Supplement No. 1, March, 1942, pp. 141-155.

⁷⁹ Paul Grady, "Accounting for Fixed Assets and Their Amortization," The Accounting Review, January, 1950, p. 17.

is to demonstrate how accounting could theoretically affect business fluctuations by determining how it fits into present-day business cycle theory, to ascertain the assumptions inherent in the theory, and to examine the modern institutional framework in which business operates in an effort to judge if the assumptions appear to be in accord with the facts. More specifically, the object is to try to determine if accounting, as generally practiced, is capable--given certain assumptions--of affecting business decisions relative to investment, dividend policy, wages, and prices in such a way as to accentuate business fluctuations on both the upswing and the downswing, as is rather frequently alleged, and to determine if the underlying assumptions seem realistic, given the institutional framework within which modern business operates.

As a corollary to the main purpose, an attempt will be made to determine if there have been changes in the institutional arrangement, or in accounting techniques, since Schmidt's day that would tend to modify accounting methodology as an accentuating factor in business fluctuations. Schmidt's writings were completed prior to the Keynesian revolution and before the development of national income accounting, and, hence, before the better knowledge of the economy and the interrelationship of its various parts.

In setting forth the problem it may be well to state what is not to be studied. It should be understood that the writer is neither advocating nor condemning conventional accounting methods. No reforms of

accounting practices are to be suggested. Neither is the author attempting to state whether economic stability is itself a worthy goal since "economic stability is but one among a number of widely accepted objectives for social policy."⁸⁰

Since the study is not primarily an inquiry into the causes of the business cycle, it will not be concerned with the turning points per se. On the cumulative processes of expansion and contraction there is remarkable rapprochement. As one writer has stated: "However much economists may quarrel about the forces determining the 'turning points' of the cycle, i. e., crises and recovery, there exists today fairly wide agreement that the intermediate periods of the cycle, i. e., prosperity and depression, are characterized by self-reinforcing processes of expansion and contraction of employment and output."⁸¹ Another writer has said: "Perhaps the outstanding common characteristic of all business cycles is the cumulative, self-reinforcing nature of the movements of expansion and contraction. . . ."⁸²

⁸⁰ American Economic Association, "The Problem of Economic Stability," A Report Prepared by a Subcommittee of the Committee on Public Issues, The American Economic Review, XL (1950), 506. The Committee mentions three other objectives, viz., "peace, progress, and freedom." Ibid.

⁸¹ L. M. Lachman, "Investment and Costs of Production," The American Economic Review, September, 1938, p. 469.

⁸² Hamberg, op. cit., p. 363.

Since this study deals with accounting methodology as a reinforcing factor, it will be concerned primarily with endogenous theories rather than with exogenous theories. Although the incentives of businessmen in making investment decisions will be dealt with at some length, and although these incentives are, in part, non-economic (psychological), no psychological theory of the cycle will be adopted. Those who suggest that accounting methodology accentuates the cycle, however, do put emphasis on the psychological factors, as is shown by the following words: ". . . It would seem that the maintenance of a relatively stable level of periodic income might do much to reduce the effect of 'waves of optimism and pessimism' on the level of business activity. . . ."⁸³ Slichter also states that "changes in accounting which would reduce the fluctuations in profits would help to stabilize the emotions, and, therefore, the expenditures of business managers. . . ."⁸⁴ The present author, however, is in agreement with the statement that the "psychological factor alone is too slender a base on which to rear a complete theory of the business cycle."⁸⁵

⁸³ Samuel R. Hepworth, "Smoothing Periodic Income," The Accounting Review, January, 1953, p. 34.

⁸⁴ Sumner H. Slichter, "The Adjustment to Instability," The American Economic Review Supplement, March, 1936, p. 201.

⁸⁵ McNair, op. cit., p. 225.

Likewise, since business accounting is in monetary terms, the discussion must perforce be largely in monetary terms but this is not to say that the writer believes that the cycle is only a monetary phenomenon. The concept of the cycle which is adopted is an eclectic one. It would be equally consistent with this school of thought to assume that improved profit prospects were a consequence of expanded credit by the commercial banking system, that they were caused by a flow of new inventions and technical improvements, or that they were related to the periodic appearance of swarms of innovators, or to assume that at different times different forces were operative.

The general plan of the study. --Since our central purpose is to evaluate an accentuating factor in business fluctuations, we need to know what is alleged to be accentuated. What measures, or what set of indicators, will be studied? Is it to be physical production, prices, or employment? Fortunately, as can be seen from Table 2, these indicators, in general, move up and down together. "Prices and production, outside of agriculture, ordinarily rise and fall together instead of moving in opposite directions."⁸⁶ Hansen also mentions the tendency of various economic indicators to move together:

The fluctuations of cyclical movements may be characterized in terms of either money income, real income (the output of material and services), or employment. . . . Cyclically, . . . the three move

⁸⁶American Economic Association, op. cit., p. 509.

TABLE 2

SELECTED INDICATORS OF BUSINESS TRENDS
1919-1948*

Year	Index of Industrial Production 1935-39 = 100	Employment in Manufacturing Annual Average (Thousands)	Index of Wholesale Prices (1926 = 100)		
			Combined	Farm Products	Non-farm Products
1919	72		138.6	157.6	131.6
1920	75		154.4	150.7	154.8
1921	58		97.6	88.4	100.1
1922	73		96.7	93.8	97.3
1923	88		100.6	98.6	100.9
1924	82		98.1	100.0	97.1
1925	90		103.5	109.8	101.4
1926	96		100.0	100.0	100.0
1927	95		95.4	99.4	94.6
1928	99		96.7	105.9	94.8
1929	110	31,041	95.3	104.9	91.6
1930	91	29,143	86.4	88.3	85.3
1931	75	26,383	73.0	64.8	75.0
1932	58	23,377	64.8	48.2	70.2
1933	69	23,466	65.9	51.4	71.2
1934	75	25,699	74.9	65.3	78.4
1935	87	26,792	80.0	78.8	77.9
1936	103	28,802	80.8	80.9	79.6
1937	113	30,718	86.3	86.4	85.3
1938	89	28,902	78.6	68.5	81.7
1939	109	30,287	77.1	65.3	81.3
1940	125	32,031	78.6	67.7	83.0
1941	162	36,164	87.3	82.4	89.0
1942	199	39,697	98.8	105.9	95.5
1943	239	42,042	103.1	122.6	96.9
1944	235	41,480	104.0	123.0	98.5
1945	203	40,069	105.8	128.2	99.7
1946	170	41,494	121.1	148.9	109.5
1947	187	43,970	152.1	181.2	135.2
1948	192	45,131	165.1	188.3	151.0

*Source: U. S. Congress, Factors Affecting Volume and Stability of Investment, Senate Document No. 232, 81st Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1950), p. 15.

more or less in consonance, though the trend movement is likely to differ considerably under varying circumstances . . . frequently in discussing economic fluctuations or cyclical movements all three may be regarded without serious error as moving together, whether in the upswing or in the downswing. . . .⁸⁷

Therefore, reference may be made to any or all of the usual indicators in characterizing business fluctuations.

Since "the level of income and employment at any time depends upon the amount of spending on new goods and services",⁸⁸ any discussion of an accentuating factor in business fluctuations must be in terms of its effect on aggregate demand. Fortunately, we now have the national income statistics to quantify many of the relationships with which this study is concerned. Out of the four components of gross national product--gross private domestic investment, personal consumption expenditures, government purchases of goods and services, and net foreign investment--this study deals with the first two. Net foreign investment is ignored because of its small size (-\$1,866 million in 1953 out of a gross national product of \$364,857 million).⁸⁹ Government expenditures are ignored, not because of their size,⁹⁰ but because

⁸⁷ Fiscal Policy and Business Cycles, op. cit., pp. 14 f.

⁸⁸ Gordon, op. cit., p. 58.

⁸⁹ U. S. Department of Commerce, Office of Business Economics, National Income--A Supplement to the Survey of Current Business (Washington: U. S. Government Printing Office, 1954), p. 163.

⁹⁰ \$85,235 million in 1953, ibid.

it is felt that these expenditures are not materially influenced by the accounting policies of business firms. It may be argued, however, that accounting influences the amount of income which business firms report, which in turn influences the amount of income taxes collected by the government, which influences government spending. However, our experience over the last twenty-five years, especially, has demonstrated that the spending of the government is not dependent in any great degree upon currently collected taxes.

While the effect of accounting methodology on business fluctuations must often run in macroeconomic terms, much of the discussion will also be in microeconomic terms since considerable attention will be directed to investment behavior and its motivation. The analysis as to why these decisions are made "can be conducted only at the level of the individual firm"⁹¹ and "is represented by microeconomic data and not by aggregates".⁹²

In studying business behavior at the individual firm level, the emphasis will be on the large corporation for two reasons: (1) better information is available for the large corporations, and (2) the large corporation does the lion's share of the business of the country. One-half

⁹¹ George Katona, Psychological Analysis of Economic Behavior (New York: McGraw-Hill, Inc., 1951), p. 19.

⁹² Ibid.

of the free world's industrial output is produced by the United States and one-half of the United States output, in turn, is produced by the five hundred largest⁹³ corporations in the United States.⁹⁴ These five hundred corporations account for two-thirds of the net earnings of all United States industrial firms and employ forty-four per cent of the industrial work force.⁹⁵

Much of the material presented will be qualitative in nature, the evidence presented will many times be indirect, and the propositions will, therefore, not be subject to direct "proof". Opinions of economic specialists who have spent a considerable part of their lives studying specific points must be relied on rather heavily. However, whenever possible the relationships will be expressed quantitatively.

In many places throughout the discussion, the writer had the feeling that he was truly standing "at the frontiers of economic knowledge". This was especially true when the motivation of investment decisions was under study. Very frequently the lack of knowledge of how investment decisions are really made has been pointed out as the principal gaping hole in the empirical backdrop against which the theories of the cycle may be tested. The Temporary National Economic

⁹³In terms of sales.

⁹⁴"Box Score of Business Bigness," Fortune, July, 1955, p. 96.

⁹⁵Ibid.

Committee in 1941 stated that "little is known of the criteria that in day-to-day business operations govern investment decisions."⁹⁶ While some of the gaps have been filled in since, the picture is far from complete as a later publication has emphasized: ". . . Many economic and political factors general and specific, tend to affect investment decisions. Theories abound: Classical, Keynesian, anti-Keynesian, etc. Basically, there is an inadequacy of complete statistical evidence for most of them. . . ."⁹⁷

Chapter two demonstrates the key role of business investment in the modern theory of business fluctuations and the cyclical implications of investment decisions made by businessmen. By accepting the assumption of profit maximization and the tendency of businessmen to measure prospective profits by ex-post profits, i. e., accounting profits, it is shown how accounting profits fit into a key role in business fluctuations.

Chapter three shows how accounting methods are said to misstate profits and how businessmen, if misled by this misstatement,

⁹⁶Oscar L. Altman, Saving, Investment, and National Income ("Temporary National Economic Committee Monograph No. 37"; Washington: U. S. Government Printing Office, 1941), p. 2.

⁹⁷U. S. Congress, Staff of the Subcommittee on Investment, Joint Committee on the Economic Report, Factors Affecting Volume and Stability of Private Investment, Senate Document No. 232, 81st Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1950), pp. 3 f.

would tend to act in such a way as to accentuate the cycle on both the up-swing and the downswing. An effort is made to determine what is meant when accountants are accused of misstating "economic profit". What is this criterion of "economic profit" against which accounting profits are alleged to be misstated?

Thus, the aim of the second and third chapters is to see how the theory that accounting methodology accentuates business fluctuations fits into present-day economic and business cycle theory, to try to determine the assumptions inherent in the argument--or, in some cases, to try to determine what has been established empirically and what is merely assumption--and to ascertain the controversial points in the theoretical superstructure.

Inventory accounting is one of the main objects of criticism of those who think that accounting methodology accentuates business fluctuations. The place of inventory investment in the modern theory of business fluctuations, the relationship of accounting valuation to inventory investment and to profit measurement, and an estimate of the amount by which inventory accounting methods "misstate" profits, form the subject matter of the fourth chapter.

Chapter five shows how depreciation accounting is said to mis-state economic profit. The cyclical implications of the proper depreciation expense through time, as well as estimates of the amount by which profits are said to be misstated due to depreciation accounting

methods, are explored. In this chapter also, the conflict, very often apparent in discussions of economic dynamics, between long-run effects and cyclical effects is encountered. The accounting method that may contribute to economic stability may not contribute to long-run economic growth, or vice versa. Nevertheless, much has been written in recent years relative to the alleged effects of depreciation methods on long-term growth, and since trend and cycle are so often inseparable, this problem cannot be wholly by-passed.

Thus the purpose of the fourth and fifth chapters is to show what specific accounting methods are under fire when it is said that accountants misstate profits, to indicate how much the profit is estimated to be misstated due to these methods, and to tie these facts in with the theoretical arguments presented in the second and third chapters.

In the discussion of chapters two through five much abstraction from the institutional framework has taken place. Technology as a factor in investment decisions has been largely ignored. Likewise, the relationship of accounting methods, income tax collections, and business investment has been held in the background. This neglect of income taxes has been done partly to simplify the discussion, since all factors cannot be treated concurrently, and partly because, although accounting methods are important in determining the base to which the tax rates are applied, it is felt that decisions relative to the allocation

of taxes between the income tax and other forms of taxation, the rates of taxation, and the distribution of the burden between the various classes of taxpayers, are largely arrived at independently of the method of accounting used by the individual business firm. One writer on the relationship of accounting methods and income taxation together with the economic effects of this relationship, has aptly remarked: "Tax collections can be raised or lowered either by changes in the structure of tax rates or by a tax base that moves sensitively with changes in the level of economic activity. . . ."⁹⁸ This is not to say, however, that the income tax angle can be ignored altogether since it is felt that investment decisions of businessmen, as well as the consumption function of individuals, are affected by the amount of income tax collections which, in the case of the individual taxpayer, is partially a function of the accounting methods used.⁹⁹

Throughout the discussion in the second to the fifth chapters, much evidence is presented to show that over the years writers have thought that accounting did affect business fluctuations via investment decisions and the points of contact with business cycle theory have been

⁹⁸ E. Cary Brown, Effects of Taxation--Depreciation Adjustments for Price Changes (Cambridge, Massachusetts: The Riverside Press, 1952), p. 79.

⁹⁹ This question will be discussed in Chapter VI.

highlighted. Although no one of these writers has presented a comprehensive treatise, judged by modern standards, yet the cumulative writings, grubbed out of the literature, given certain inherent assumptions, do add up to a fairly comprehensive body of business cycle theory.

In chapter six the inherent assumptions on which the theoretical structure of the earlier chapters is built are examined. One writer has stated that the testing of any argument for soundness consists in laying bare the assumptions: "The art of testing any argument for soundness lies, in the opinion of most competent judges, in stripping it down first to the definite and basic propositions on which it depends. . . ."¹⁰⁰ Certain alternative assumptions underlying investment behavior are considered and the remaining pieces of the present-day institutional framework have been replaced--especially changing technology and a consideration of the modifications necessary when the maximization of profit after income taxes is assumed to be the goal of economic behavior. A re-examination of some of the arguments presented in the earlier chapters is now made in the light of a more realistic treatment.

Accounting methodology is also thought by some writers to influence dividend and wage policy, and through these effects, to have implications for business fluctuations. How this is thought to take place and

¹⁰⁰ Joseph E. Goodbar and Lorenzo U. Bergeron, A Creative Capitalism (Boston: Boston University Press, 1948), pp. 174 f.

an evaluation of the supporting arguments are considered in the seventh chapter. Furthermore, deep concern was shown, especially during the Great Depression of the thirties, over the depreciation policies of corporations and the failure to return all costs provided for in the selling price of goods to the income stream. A statement of this argument and an evaluation of it is also included in chapter seven.

The use of accounting methods in determining product costs, and the basing of selling prices on the costs thus computed, have been criticised severely for many years. The practice, furthermore, is thought by many writers to accentuate business fluctuations. This argument is based on the fact that accounting costs, and hence, prices based on these costs are not flexible cyclically. Although aggregate prices, output, and employment tend to move together,¹⁰¹ this is not necessarily true with respect to individual prices. Since rigid prices are assumed to accentuate the cycle, especially on the downward phase, many see accounting methods again as an accentuating factor. An examination of the details of this argument and an evaluation of it will take place in chapter eight.

It should be noted that while chapters two to six deal with the relationship of accounting methods to the investment function, chapters seven and eight are concerned with variations in consumption

¹⁰¹ See Table 2.

expenditures and the relation of accounting methods thereto. However, while investment and consumption have been artificially separated for individual consideration, they are interrelated; as Angell has said: "Every 'original' change in current investment or in current consumption, other things being equal, alters current income in the same direction, and every change in current income, other things again equal, in turn alters current consumption or investment. . . ."¹⁰² Keynes has also said that "capital is not a self-subsistent entity existing apart from consumption. . . ."¹⁰³ It may thus be seen that while chapters two to six deal with the business cycle as largely caused by changes of investment and the relationship of the accountants' computation of profit thereto, chapters seven and eight deal largely with the maladjustment of the cost-price structure advanced by the older cycle theorists.

While the author is cognizant of the fact that the methods used and the conclusions drawn may not be as clear-cut as the scientist would wish, he feels, however, that "it is better to be vaguely right than precisely wrong."¹⁰⁴

¹⁰² James W. Angell, Investment and Business Cycles (New York: McGraw-Hill Book Company, Inc., 1941), p. 72.

¹⁰³ John Maynard Keynes, The General Theory of Employment, Interest, and Money (New York: Harcourt, Brace and Company, 1935), p. 106.

¹⁰⁴ Professor Wildon Carr, quoted by G. F. Shrove in "The Place of Marshall's Principles in the Development of Economic Theory," The Economic Journal, December, 1942, p. 323.

CHAPTER II

THE RELATIONSHIP OF ACCOUNTING PROFITS TO BUSINESS FLUCTUATIONS

Causes of Changes in the Level of Gross National Product

Since any inquiry into the relationship of accounting methodology to business fluctuations is essentially a study of its relationship to changes in the level of gross national product (or of national income), it is appropriate to probe into the causes of these changes. In modern business cycle theory discussion of the causes of these changes in the level of gross national product runs largely in terms of the relationship between savings and investment. Since in the literature on business fluctuations the meanings of these terms is not unambiguous, it is necessary to define the concepts as they are to be used in a particular piece of writing.

The concept of current saving. --Not all the expenditure for goods and services made by the four sectors¹ of the economy are for

¹According to the National Income Division of the U. S. Department of Commerce: (1) the business sector, (2) the personal sector, (3) the government sector, and (4) the rest of the world sector,

consumption. The difference between the gross national product and the total that has been consumed represents the gross current saving of the whole economy. These gross savings are significant in any discussion of business fluctuations since "they tend to show the rate at which spendable funds are withdrawn from the market for goods and services."² Gross current savings can also be thought of as being made up of current personal savings, gross current business savings, government surplus, and net investment (or disinvestment) in the rest of the world. Current personal saving is merely the income which all individuals receive less personal tax payments and expenditures for consumption. Gross business savings consist principally of undistributed profits and capital consumption allowances.³ When the government sector of the economy collects more taxes than the total it spends, then the surplus represents savings. The essential characteristic of current gross saving is thus

National Income. A Supplement to the Survey of Current Business
(Washington: U. S. Government Printing Office, 1951), pp. 34-51.

²Lawrence R. Klein, "Savings Concepts and Data: The Needs of Economic Analysis and Policy," Savings in the Modern Economy, ed. by Walter W. Heller, Francis M. Boddy, and Carl L. Nelson (Minneapolis: The University of Minnesota Press, 1953), p. 106.

³In addition, gross current business savings include the corporate inventory valuation adjustment, two minor items--business transfer payments and subsidies minus current surplus of governmental enterprises--and as a residual, the statistical discrepancy. Richard Ruggles, An Introduction to National Income and Income Analysis (New York: McGraw-Hill Book Company, Inc., 1949), pp. 210 f. n. 3.

that outlays on current account be smaller than receipts on current account.⁴

Gross current saving, however, does not reflect the amount that has been added to the wealth of the economy during the current period. In the process of production capital is used up. Net current saving is the difference between gross current saving and this capital consumption. Since gross current savings show how much is not being spent for goods and services,⁵ they are considered "more significant than net savings so far as the flow of national income and the level of economic activity are concerned."⁶ Furthermore, since depreciation allowances are estimates, and since accounting practices and dividend policies vary between firms, there is no airtight wall between depreciation allowances and the concept of net business savings, or retained earnings.

The concept of aggregate investment. --Ruggles defines investment for the economy as "that part of current production which is purchased for purposes other than current consumption."⁷ "Gross private domestic investment" is usually broken down into new durable capital

⁴Ibid., p. 215.

⁵See statement by Klein, supra.

⁶Oscar L. Altman, Savings, Investment, and National Income ("Temporary National Economic Committee Monograph No. 37"; Washington: U. S. Government Printing Office, 1941), p. 12.

⁷Ruggles, op. cit., pp. 227 f.

goods purchased by business firms (including new houses purchased for rental purposes), new homes purchased by individuals for their own use, and additions to inventories of all types of goods in the hands of business firms. Gross investment, as far as business firms are concerned, is thus confined to the purchase of durable capital goods and increases in inventories. Thus defined, business investment includes replacements as well as new investment.⁸

The concept of net investment, or new investment, can be obtained, at least in a mechanical fashion by deducting capital consumption allowances.⁹ However, as a practical matter, it is exceedingly difficult to differentiate between new investment and replacement of existing capital goods. As one writer, after an extensive study of the electric utility industry, has stated:

. . . While judgment on industry as a whole must be reserved, it is clear that in the electric utilities, and probably in a number of other industries as well, a break of total capital expenditures between expansion and replacement is not feasible. Some expenditures are designed for the former purpose, others for the latter--but the bulk performs both functions at once.¹⁰

⁸U. S. Department of Commerce, National Income Division, op. cit., p. 37.

⁹It has been estimated that in good times about one-half of investment expenditures represents replacement and one-half expansion. Altman, op. cit., p. 67.

¹⁰Michael Gort, "The Planning of Investment: A Study of Capital Budgeting in the Electric-Power Industry. II," The Journal of Business, July, 1951, p. 197.

This writer concluded that: "Replacement is thus indistinguishable from expansion."¹¹ Due to the practical difficulty of differentiating between gross and net investment and since "gross investment, rather than net investment alone, changes the direction, tempo, output, and productive methods of the economy"¹², the discussion in subsequent chapters is largely in terms of gross investment.

The relationship of savings, investment, and changes in the level of gross national product. --Since gross saving for the economy has been defined as the difference between the gross national product and the amount that has been consumed, and since gross investment has been defined as that part of current production which is purchased for future use,¹³ then it follows that savings and investment thus defined are numerically equal. This relationship holds for the economy as a whole for a past period of time, i. e., it is an ex-post concept. It does not mean that in the coming period that planned (ex-ante) saving and planned investment will be equal.

If, in fact, planned investment is just equal to planned savings, the current level of production will be maintained: "For a given level

¹¹ Ibid., p. 201.

¹² Altman, op. cit., pp. 67 f.

¹³ See discussion on saving and investment, supra.

of national income to be maintained private investment and government expenditure on new goods and services must be equal to the sum of all savings and taxes.¹⁴ However, we have every reason to believe that ex-ante investment and ex-post savings will be different.

Within any one sector--the business sector, for example--the saving and investment function could conceivably be performed by the same individuals. In actuality, however, most of the saving is done by individuals in the personal sector of the economy.¹⁵ The individuals making up the personal sector do not invest these savings (except in residences). Hence, within the personal sector one would not expect savings to equal investment. The investment of these savings is usually done within the business sector. As Friend and Natrella have observed: "There is no reason why the amount people want to save at a given level of income should necessarily be equal to the amount people want to invest since saving and investment to a considerable extent are performed by different persons, and since different factors determine the amounts

¹⁴ Robert Aaron Gordon, Business Fluctuations (New York: Harper and Brothers, Publishers, 1952), p. 60.

¹⁵ According to Raymond W. Goldsmith, nonfarm individuals' savings now account for just over seventy per cent of total national savings, agriculture and unincorporated businesses a little over three per cent for either group, corporate saving about one-sixth and state and local government about one-twelfth. A Study of Saving in the United States, (Princeton: Princeton University Press, 1955), I, 127 f.

even when they are performed by the same person."¹⁶

Concerning the different factors which determine savings and investment Harrod has said:

. . . On the one hand there are the decisions of those who order the construction of capital goods having in mind that the uses to which they will be put in future are likely to yield a profit. On the other hand there are the decisions of those who decide to refrain from consuming a part of their incomes in order to make provisions for the future. . . ."¹⁷

The amount of personal savings is thought by many economists to be a function of the propensity-to-consume schedules at various levels of income and the pattern of distribution of the total income.¹⁸ Harrod expressed this idea in these words:

. . . people do not set money aside because they expect their incomes to grow; . . . They save because their incomes are sufficiently large for them to satisfy urgent present needs and to set aside something to meet future contingencies. The amount of savings depends primarily not on the prospective rate of growth but on the present size of income.¹⁹

¹⁶ Irwin Friend and Vito Natrella, Individuals' Saving (New York: John Wiley and Sons, Inc., 1954), p. 9.

¹⁷ R. F. Harrod, The Trade Cycle (Oxford: at the Clarendon Press, 1936), p. 166. Goldsmith gives three types of basic "rational motives of saving": (a) Acquisition of certain durable tangible assets to be used in saver's household, (b) provision for certain future expenditures, and (c) provision of an equity fund to establish and maintain him in business. Op. cit., p. 16.

¹⁸ John F. Due, Intermediate Economic Analysis (Chicago: Richard D. Irwin, Inc., 1952), p. 54.

¹⁹ Harrod, op. cit., p. 162.

In the case of businesses, the magnitude of net savings is determined by such factors as the level of profits, which are partially a function of the method of computing depreciation, and the dividend policies of the various corporations. All of these are partially questions of accounting methods used by the firms and will be considered in later chapters.

Whenever planned savings exceed planned investment, then gross national product will fall below its present level and whenever planned investment exceeds planned savings, gross national product will rise above its present level.²⁰ Thus any attempt by any sector of the economy to change either current saving or current investment will change the level of the gross national product.²¹ Klein summarizes the relationship between savings and investment in these words: "The strategic importance of savings in business cycle theory depends on their being undermatched, exactly matched, or overmatched by investment outlets. . . ."²² This viewpoint seems to have been generally accepted as exemplified by these words: "From the point of view of income determination that at any given level of aggregate income investors collectively may want and attempt to invest more (or less) than savers collectively want to save, with a stimulating (or retarding) effect on the economy, is

²⁰ Due, op. cit., pp. 458 f.

²¹ Ruggles, op. cit., p. 231.

²² Klein, op. cit., pp. 106 f.

generally accepted and is an important part of many theories of economic fluctuations. . . ."²³ Furthermore, all witnesses before the TNEC agreed that savings must be returned to the income stream--through investment expenditures or offset in other ways--if the level of national income is to be maintained.²⁴

Business Investment As the Key Factor
in Business Fluctuations

Gross private domestic investment as the most volatile component of the gross national product.--Domestic investment expenditures have been the most volatile of the four types of expenditures. This can be observed from Table 3 where domestic investment fell from 15.5 per cent of gross national product in 1929 to 1.6 per cent in 1932. Consumption expenditures, on the other hand, increased from 75.6 per cent in 1929 to 84.3 per cent in 1932. Roughly one-half of the shrinkage in the gross national product was due to lower prices.²⁵

In absolute terms consumption and investment tend, in general, to rise and fall together. Consumption and investment were both at a high point in 1929. Investment fell to a low in 1932, whereas consumption fell to a low in 1933. In post-World War II years, although

²³ Friend and Natrella, op. cit., pp. 7 f.

²⁴ Altman, op. cit., p. 8.

²⁵ U. S. Department of Commerce, National Income Division, op. cit., p. 12.

TABLE 3

GROSS NATIONAL PRODUCT AND THE PERCENTAGE
DISTRIBUTION OF ITS COMPONENTS
1929-1954*

Year	Gross National Product		Personal Consumption Expenditures	
	Amount Millions of Dollars	Per cent	Amount Millions of Dollars	Per cent
1929	104,436	100	78,952	75.6
1930	91,105	100	70,968	77.9
1931	76,271	100	61,333	80.4
1932	58,466	100	49,306	84.3
1933	55,964	100	46,392	82.9
1934	64,975	100	51,894	79.9
1935	72,502	100	56,289	77.6
1936	82,743	100	62,616	75.7
1937	90,780	100	67,259	74.1
1938	85,227	100	64,641	75.8
1939	91,095	100	67,578	74.2
1940	100,618	100	71,881	71.4
1941	125,822	100	81,875	65.1
1942	159,133	100	89,748	56.4
1943	192,513	100	100,541	52.2
1944	211,393	100	109,833	52.0
1945	213,558	100	121,699	57.0
1946	209,246	100	146,617	70.1
1947	232,228	100	164,973	71.0
1948	257,325	100	177,609	69.0
1949	257,301	100	180,598	70.2
1950	285,067	100	194,026	68.1
1951	328,252	100	208,342	63.5
1952	345,229	100	218,328	63.2
1953	364,520	100	230,578	63.3
1954	360,474	100	236,532	65.6

*Source: Dollar figures from U. S. Department of Commerce Office of Business Economics, Survey of Current Business, July, 1955, pp. 8 f.

^aLess than 0.1 per cent.

TABLE 3--Continued

Gross Private Domestic Investment		Net Foreign Investment		Government Expenditure	
Amount Millions of Dollars	Per cent	Amount Millions of Dollars	Per cent	Amount Millions of Dollars	Per cent
16,231	15.5	771	.7	8,482	8.1
10,265	11.3	690	.8	9,182	10.1
5,523	7.2	197	.3	9,218	12.1
913	1.6	169	.3	8,078	13.8
1,391	2.5	150	.3	8,031	14.3
2,888	4.4	429	.7	9,764	15.0
6,277	8.7	-54	-.1	9,990	13.8
8,404	10.2	-93	-.1	11,816	14.3
11,747	12.9	62	.1	11,712	12.9
6,661	7.8	1,109	1.3	12,816	15.0
9,309	10.2	888	1.0	13,320	14.6
13,155	13.1	1,509	1.5	14,073	14.0
18,072	14.4	1,124	.9	24,751	19.7
9,875	6.2	-207	-.1	59,717	37.5
5,600	2.9	-2,245	-1.2	88,617	46.0
7,130	3.4	-2,099	-1.0	96,529	45.7
10,430	4.9	-1,438	-.7	82,867	38.8
27,125	13.0	4,586	2.2	30,918	29.6
29,705	12.8	8,942	3.9	28,608	12.3
41,176	16.0	1,956	.8	36,584	14.2
32,549	12.7	534	.2	43,620	17.0
51,219	18.0	-2,201	-.8	42,023	14.7
56,864	17.3	227	.1	62,799	19.1
49,592	14.4	-164	a	77,473	22.4
51,383	14.1	-1,952	-.5	84,511	23.2
47,248	13.1	-266	-.1	76,960	21.3

investment expenditures dropped in 1949, 1952, and 1954, consumption expenditures have risen steadily.

Frederick C. Mills in a study using 1927 as a base year showed that the physical production of capital goods climbed to an index of 119 in 1929 and dropped to a low of 36 three years later. Consumption goods climbed to 111 in 1929 and dropped to 69 in 1932.

TABLE 4

CHANGES IN THE VOLUME OF MANUFACTURING PRODUCTION
IN THE UNITED STATES 1927-1932*

Year	Capital Equipment	Consumption Goods	Durable Goods	Semi-Durable Goods	Non-Durable Goods
1927	100	100	100	100	100
1928	111	104	110	101	105
1929	119	111	119	106	111
1930	88	94	85	86	107
1931	63	86	60	85	100
1932	36	69	34	75	89

*Source: Frederick C. Mills, "Changes in Physical Production, Industrial Productivity, and Manufacturing Costs, 1927-1932," National Bureau of Economic Research Bulletin No. 45. (New York: National Bureau of Economic Research, February 20, 1933), p. 3.

From the evidence it can be seen that consumer spending compared to investment expenditure is much more stable. A good many writers on cycle theory take the position that consumer spending is passive, being tied to the level and distribution of income, while

investment, on the other hand, is the active component of national income. Hansen, one of the leading advocates of this viewpoint, states his position in these words: "Thus, the statistical data during the last two decades tend to support the thesis that the active, dynamic factor in the cycle is investment, with consumption assuming a passive, lagging role."²⁶ Slichter, also a proponent of this point of view, stated that "the explanation of fluctuations in the total volume of spending must be sought not in spending by consumers, but in spending by business enterprises."²⁷

There is not complete agreement, however, on the passivity of consumer spending, or of its complement, saving. Goldsmith thinks that the thesis that saving is tied strictly to income is not borne out statistically:

. . . The doubts concerning the stability of the saving function, particularly in the short-run, which are suggested by an analysis of time series of saving are reinforced by the investigation into the behavior of samples of households. These investigations seem to have led to the conclusion that there is a considerable degree of autonomy, i. e. independence from close adaptations to changes in income or other economic variables, in saving decisions and in actual saving, not only for individual households, but also for all households together.²⁸

²⁶Alvin Hansen, Fiscal Policy and Business Cycles (New York: W. W. Norton and Company, Inc., 1941), p. 50.

²⁷Sumner H. Slichter, Towards Stability (New York: Henry Holt and Company, 1934), p. 4.

²⁸Goldsmith, op. cit., pp. 21 f.

Moulton likewise does not accept the thesis that capital expenditures "are the pivot around which the economic system revolves."²⁹

How can investment expenditures which have not been more than eighteen per cent of the gross national product since 1929 play such a strategic role, and why are they so volatile? Economists have explained this by the principle of the multiplier, the accelerator principle, and the interaction of the two.

The multiplier, the accelerator, and their interaction. --If increases in expenditure occur in an economic system, the national income will be raised by more than this original expenditure. Thus, if autonomous investment³⁰ occurs, there will be a larger rise in national income than the rise in the investment expenditure. The ratio of the total increase in income to the original increase in spending is called the multiplier.³¹ The multiplier is theoretically equal to the reciprocal of the marginal propensity to save.³² The relationship

²⁹H. G. Moulton, Controlling Factors in Economic Development (Washington: The Brookings Institution, 1949), p. 375 n. 9.

³⁰Investment based on subjective expectations of enterprisers and thus independent of current economic phenomena. D. Hamberg, Business Cycles (New York: The Macmillan Company, 1951), p. 102; "Capital expenditures not geared to the current rate of consumption." Asher Achinstein, Introduction to Business Cycles (New York: Thomas Y. Crowell Company, 1950), p. 102; see also Gordon, op. cit., p. 103.

³¹Gordon, op. cit., p. 88.

³²Hamberg, op. cit., p. 86; also Alvin Hansen, Business Cycles and National Income (New York: W. W. Norton and Company, Inc., 1951), p. 173.

expressed in such simple terms represents an ideal, but the actual multiplying effect is much less than the ideal since lags and leakages occur. Furthermore, the increments of expenditure must be maintained in order to prevent the national income from falling to its former level.³³ These qualifications, however, should not be construed as vitiating the usefulness of the multiplier as an analytical tool. While the multiplier has been stressed with reference to investment expenditures, there "is little reason to believe that the total effect of an additional dollar of investment spending is any greater than the total effect of an additional dollar of consumer expenditure."³⁴

There is a second mathematical relationship between consumption, investment, and national income that has been put forward to explain why the expenditures on capital goods are so volatile. This explanation arises out of the fact that the demand for producers' goods is a derived demand. In this country, this relationship was first worked out by J. M. Clark. Clark first stated the relation in this way: ". . . The demand for maintenance and replacement of existing capital varies with the amount of the demand for finished products.

³³Hamberg, op. cit., pp. 88-92.

³⁴U. S. Congress, Staff of the Subcommittee on Investment, Joint Committee on the Economic Report, Factors Affecting Volume and Stability of Investment, Senate Document No. 232, 81st Cong. 2d Sess. (Washington: U. S. Government Printing Office, 1950), p. 29.

while the demand for new construction or enlargements of stocks depends upon whether or not the sales of the finished product are growing³⁵ Clark stated the proposition even more precisely by saying: "If demand be treated as a rate of speed at which goods are taken off the market maintenance varies roughly with the speed, but new construction depends upon the acceleration."³⁶ Since the change in the demand for capital goods depends on the rate of change in the demand for consumption goods,³⁷ the demand for producers' goods may suffer an absolute decline even though the demand for the consumers' goods is still rising. The "induced investment"³⁸ set up by the accelerator is used as an explanation of the wide fluctuation of producers' goods as compared with consumers' goods over the cycle.

This relationship, however, also has limitations. Hamberg has pointed out some of the limitations:³⁹ Replacement demand fluctuates; varying degrees of excess capacity exist most of the time; all consumer goods do not require the same amount of capital goods for

³⁵ J. Maurice Clark, "Business Acceleration and the Law of Demand: A Technical Factor in Economic Cycles," The Journal of Political Economy, March, 1917, p. 220.

³⁶ Ibid., n.

³⁷ Paul Douglas, Controlling Depressions (New York: W. W. Norton and Company, Inc., 1935), p. 13.

³⁸ Hamberg, op. cit., p. 104.

³⁹ Ibid., p. 110.

their production; the ratio of consumer goods to capital goods is capable of being varied; and producers may not all respond to increases in the demand for their products in the same manner. Haberler⁴⁰ points out two implicit assumptions underlying the relationship. The existence of unused capacity is excluded and a fixed relationship between output and capital equipment is assumed. More realistic assumptions thus lead to a downward revision of the relation derived under the simplifying assumptions.⁴¹ Clark himself later admitted that the relationship has limitations and was based on simplifying assumptions.⁴² Due to the two simplifying assumptions pointed out by Haberler, the accelerator principle will become more operative during the later stages of an upswing but will be of limited application on the decline since expenditure for capital goods are usually limited to replacements.⁴³

Kuznets has tested the hypothesis statistically in the case of railroad equipment and concludes: "Thus, the statistical evidence indicates clearly that the magnification of changes in the demand for

⁴⁰Gottfried Haberler, Prosperity and Depression (Lake Success, New York: The United Nations, 1946), p. 92.

⁴¹Hamberg, op. cit., p. 117.

⁴²J. M. Clark, Strategic Factors in Business Cycles (New York: National Bureau of Economic Research, 1935), p. 36.

⁴³Hamberg, op. cit., p. 110.

equipment, expected on the basis of the hypothesis tested, fails to materialize by a wide margin.⁴⁴ In spite of its limitations and the failure of his study to establish the hypothesis empirically, however, Kuznets admits that it is partially valid as an explanation of the greater amplitude and lead of cycles in the demand for capital goods as compared to finished goods.⁴⁵

The interaction of the multiplier and the accelerator have been used to show how an initiating impulse once started tends to become cumulative. Haberler states this viewpoint as follows:

. . . The cumulative nature of expansion and contraction processes is explained largely by the interplay of producers' spending (investment) and consumers' spending. The two-way relationship between consumption and investment has been discussed by economists under the heading "multiplier" (influence of investment on consumption) and 'accelerator principle' (influence of consumption, or rather changes in consumption or income on investment). . . .⁴⁶

Thus, an increase in autonomous investment, for example, will increase consumption via the multiplier. The increase in consumption will stimulate derived, or "induced" investment via the accelerator factor. The combined increase in total investment will cause

⁴⁴Simon Kuznets, "Relation Between Capital Goods and Finished Products in the Business Cycle," Economic Essays in Honor of Wesley Clair Mitchell (New York: Columbia University Press, 1935), p. 266 f.

⁴⁵Ibid., p. 245.

⁴⁶Haberler, op. cit., p. 473.

consumption to rise still farther, etc.

While, as can be seen, the exact relationships are subject to dispute, there is rather general agreement today that investment plays a strategic role in the cycle. Haberler attributes to investment a major role: ". . . But there can hardly be a doubt that fluctuations in investment, inventory investment as well as investment in fixed capital, building, and consumer goods, are the main villains of the piece."⁴⁷ Michael Gort also stated that: "There are few today who question the strategic role of investment both as a factor in business fluctuations and as a basis for economic development. . . ."⁴⁸ Some writers assign a less modest role to business investment as witness this statement by Katona: "It is in business investment alone, and in government surplus or deficits, that changes in income flow originate. . . ."⁴⁹

Many writers assign a stellar role in business fluctuations to investment quite independently of the theoretical considerations discussed above since "empirically, the movements in fixed business

⁴⁷ Gottfried Haberler, "Business Cycles in a Planned Economy," Conference on Business Cycles (New York: National Bureau of Economic Research, Inc., 1951), p. 378.

⁴⁸ Michael Gort, "The Planning of Investment: A Study of Capital Budgeting in the Electric Power Industry. I," The Journal of Business, April, 1951, p. 79.

⁴⁹ George Katona, Psychological Analysis of Economic Behavior (New York: McGraw-Hill Book Company, Inc., 1951), p. 135.

investments are found to correspond closely in timing and direction with such comprehensive measures of business activity as the gross national product.⁵⁰ This in itself is considered sufficient to establish the role of investment.

The strategic role of investment in the cycle may now be summarized:⁵¹

(1) Business investment is a major factor in the growth or progress of an economy.

(2) Business investment fluctuates greatly in the same direction as the various economic indicators.

(3) Changes in investment have a cumulative effect.

Even after accepting investment as the strategic factor in the cycle, there still remains the question of what factors determine investment decisions and why it is believed by many writers that accounting methodology influences these investment decisions.

Possible determinants of investment decisions. --While the interaction of the multiplier and the accelerator, even in their weakened and modified form, may aid in explaining how an increase in

⁵⁰ Irwin Friend and Jean Bronfenbrenner, "Plant and Equipment Programs and Their Realizations," Short-Term Economic Forecasting, Vol. XVII of Studies in Income and Wealth (New York: National Bureau of Economic Research, 1955), p. 57.

⁵¹ Katona, op. cit., p. 240.

investment would tend to perpetuate the cyclical motion, they tell us nothing about the determinants of investment decisions themselves. This interaction "merely explains why expansions and contractions, when they are brought about, are so considerable."⁵² Of all the possible influences that might affect the willingness of businessmen to invest at a given level of interest rates,⁵³ three have been singled out for particular attention: (1) the psychological element of expectations, (2) technical change, and (3) changes in the volume of current output (acceleration principle).

These determinants cannot be explained in terms of a few broad aggregates. A study of them must be made at the level of the firm. The question for most enterprises is not purely a technical one--one in which quantities only play a role. Prices and particularly profit expectations are considered of great importance.⁵⁵ Thus, it is the first of these determinants with which this study is primarily

⁵² James Arthur Estey, Business Cycles (New York: Prentice-Hall, Inc., 1946), p. 178 n.

⁵³ Concerning the other determinant of the Keynesian Theory of investment, Gordon says, "The marginal efficiency of capital is a catch-all for all the forces operating upon the willingness of business men to invest." Op. cit., p. 121.

⁵⁴ Ibid., p. 102.

⁵⁵ Jan Tinbergen and J. J. Polak, The Dynamics of Business Cycles (Chicago: The University of Chicago Press, 1950), p. 166.

concerned, especially with profit expectations. The other two determinants will not, however, be wholly neglected.⁵⁶

The adherents of the acceleration principle will not deny that profit is one of the chief determinants of the business investment decision but will add that one of the conditions for making profits is the sale of the product. The price of the product and the costs of production are also important in the determination of profit. However, Tinbergen and Polak say: "All these elements enter here in precisely the same way in which they enter into the calculation of profits. It is, therefore, much simpler to say that profits are the determinant of investment."⁵⁷

The Role of Accounting Profits in the Investment Process

The businessman plays the leading role in business fluctuations. --This emphasis on business investment as the active factor in business fluctuations throws the spotlight on the businessman who occupies the center of the stage. Except in the fields of government investment and private housing, it is the businessman who makes

⁵⁶ Some aspects of technical change will be considered in Chapters V and VI. A consideration of accounting techniques on demand for the product will be discussed in Chapters VII and VIII.

⁵⁷ Tinbergen and Polak, op. cit., p. 166. However, it will be shown in Chapter VI that profit expectations and sales expectations are not necessarily the same.

investment decisions. That the businessman occupies the center of the economic stage, has been acknowledged for some time. Veblen was one of the first to give recognition to the fact that prosperity and depression arise from certain technical exigencies of profit-making itself.⁵⁸ Veblen said: ". . . A theory of the modern economic situation must be primarily a theory of business traffic, with its motives, aims, methods, and effects."⁵⁹

David Friday also gave a central role in the economic drama to the businessman. ". . . The central figure in modern industry as it exists today is the business man--the entrepreneur, as he is called in the formal literature of economics. He stands at the center of the industrial process controlling and directing it. . . ."⁶⁰ Mitchell also gave the active role to the businessman: "The most active role in determining what use shall be made of the country's natural resources, industrial equipment, investment funds, brains and brawn

⁵⁸W. C. Mitchell, Business Cycles: The Problem and Its Setting (New York: National Bureau of Economic Research, 1927), p. 42.

⁵⁹Thorstein Veblen, The Theory of Business Enterprise (New York: Charles Scribner's Sons, 1904), p. 4. Further on Veblen said: ". . . It therefore rests with the business men to make or mar the running adjustments of industry. . . ." Ibid., p. 19. And still further, "Depression is primarily a malady of the affections of the business men. That is the seat of the difficulty." Ibid., p. 241.

⁶⁰David Friday, Profits, Wages, and Prices (New York: Harcourt Brace, and Company, 1921), p. 11.

is played by business men.⁶¹

Profit expectations as the principal determinant of the volume of investment. --A generally accepted axiom underlying economic behavior has been that of profit maximization.⁶² It is assumed that the businessman will invest in such a way as to maximize his future expected returns. Mitchell says: "Anticipated profits play the decisive role in fixing the direction to be taken by business expansion. . . ."⁶³ Similar statements can be found in the writing of other business cycle theorists.⁶⁴ Some writers state that profit prospects are the most important, if not the sole, guide to business investment. "The profit incentive is the primary determinant of new plant investment. At some price there is a market for every product. The problem is, will that market be available at a price which will yield adequate profits to the producer."⁶⁵ This thought is expressed elsewhere: ". . . It goes without saying that by far the most important, if not the sole guide, to business investment decisions that the business community

⁶¹ Mitchell, op. cit., p. 157.

⁶² The assumption of profit maximization will be evaluated in Chapter VI. For the time being, this assumption is accepted as being true.

⁶³ Mitchell, op. cit., p. 106.

⁶⁴ For example, Slichter, op. cit., pp. 4 f. and Friday, op. cit., p. 11.

⁶⁵ Jules Backman, Economics of a Fourth Round Wage Increase, Testimony on Behalf of Steel Companies Before the Presidential Steel Board, August, 1949, pp. 90 f.

can safely follow is the price and profits mechanism. . . ."⁶⁶

Others, however, are not quite so positive as to the role of profits in the investment process: "Investment is generally related to prospects of profit, though the relationship is rough, inexact, and disturbed by gusts of optimism and pessimism. . . ."⁶⁷

The tendency to measure prospective profits by realized profits. --How are these prospective profits to be measured? It is felt by many students of business fluctuations that prospective profits are judged largely on the basis of current realized profits, or at least those profits that have been earned in the recent past. Tinbergen is probably the leading exponent of this school of thought:

To a very large extent, profit expectations could be based on current facts, in particular the actual magnitude of profits. . . . There is always an understandable tendency to extrapolate the recent past and current events into the future. . . . There is, therefore very much to be said for the proposition that the volume of investment depends to a considerable extent on the level of profits at the time when investment plans are made.⁶⁸

According to Buchanan, in an uncertain world this tendency to base future prospects on past performance may not be so irrational:

The record of past earnings is taken as indicative that management has been able to cope with changing conditions in the past.

⁶⁶Senate Document No. 232, 81st Congress - 2d Session, op. cit., p. 38.

⁶⁷Altman, op. cit., p. 109.

⁶⁸Tinbergen and Polak, op. cit., pp. 166 f.

And that while conditions will no doubt change in the future one may assume that the present management will be able to cope with them with equal facility. In an uncertain world this is perhaps a very reasonable position. . . .⁶⁹

Hamberg admits that current rates of return affect business expectations "perhaps disproportionately"⁷⁰, and that the tendency of businessmen to work on the assumption that the existing state of affairs will continue indefinitely "is not altogether unreasonable."⁷¹ Fabricant states that while "there is little agreement on the full theory, most economists would allot some weight to calculated business income, current and past, as a factor operating directly or indirectly on current investment decisions. . . ."⁷²

Moreover this point of view is sometimes expressed by businessmen themselves:

Profits, when they become large, signal the need for expansion in those lines of production in which demand is increasing. Contrariwise, a lack of profits indicates the necessity of

⁶⁹ Norman S. Buchanan, The Economics of Corporate Enterprise (New York: Henry Holt and Company, 1940), p. 228.

⁷⁰ Hamberg, op. cit., p. 66.

⁷¹ Ibid.

⁷² Based on a memorandum by Solomon Fabricant in American Institute of Accountants, Changing Concepts of Business Income, A Report of Study Group on Business Income (New York: The Macmillan Company, 1952), p. 76.

contraction in those industries which have been overexpanded or whose products are in diminishing demand.⁷³

The measurement of business profits is the principal function of accounting. --The measurement of business income has emerged as the principal function of accounting. Well known writers in the accounting field have emphasized this point in recent years. Paton calls the determination of the periodic income of the business enterprise "the most significant and crucial phase of the accountant's task."⁷⁴ This point of view was also adopted by the Committee on Accounting Procedure of the American Institute of Accountants in 1938: "A fair determination of income for successive accounting periods is the most important single purpose of the general accounting reports of a corporation."⁷⁵

The shift from balance sheet emphasis to the emphasis of the income statement is another manifestation of the tendency to make the measurement of business income the central purpose of the accounting art. "It is probably well recognized by intelligent investors today that

⁷³Testimony of Robert Dunlop, President, Sun Oil Company, found in U. S. Congress, Profits, A Report of a Subcommittee of the Joint Committee on the Economic Report on Profit Hearings, 80th Cong. 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 8.

⁷⁴W. A. Paton, Advanced Accounting (New York: The Macmillan Company, 1947), p. 438.

⁷⁵Quoted from Changing Concepts of Business Income, op. cit., p. 19.

earning capacity is the fact of crucial importance in the valuation of an individual enterprise, and that therefore the income account is usually far more important than the balance sheet."⁷⁶

Writers other than accountants have recognized this function of accounting. Veblen has said that "The all-dominating issue in business is the question of gain and loss. Gain and loss is a question of accounting."⁷⁷ Other writers have pointed out that "The actual data available to management and to the economist are limited to accounting and statistical records."⁷⁸ Buchanan also has said that while most people would doubtless agree that in a capitalistic economy the aim and objective of business enterprises are to secure maximum profits "it is not so generally recognized and appreciated that about the only way of measuring the achievements of individual concerns in this mutual pursuit is by the use of accounting methods."⁷⁹

Furthermore, it is accounting income by which the businessman is said to be guided. George D. Bailey, past president of the

⁷⁶American Institute of Accountants, Audit of Corporate Accounts (New York, 1934), quoted in A. C. Littleton, "Concepts of Income Underlying Accounting," The Accounting Review, March, 1937, p. 14.

⁷⁷Veblen, op. cit., pp. 84 f.

⁷⁸Committee on Price Determination, National Bureau of Economic Research, Cost Behavior and Price Policy (New York: National Bureau of Economic Research, 1943), p. 8.

⁷⁹Buchanan, op. cit., p. 225.

American Institute of Accountants, at the hearings on corporate profits before the Joint Committee on the Economic Report held in December, 1947, identified the businessman's concept of income with that of the accountant;⁸⁰

Senator O'Mahoney. We have three kinds of profit now, if I understand you, the economists' definition of profit, the businessman's definition of profit, and the accountants' definition.

Mr. Bailey. I meant to take the last two pretty much together, businessmen and accountants.

Senator O'Mahoney. Do they agree?

Mr. Bailey. Yes; by and large they do, and I will give you some figures.

Accounting profits as a factor in the raising of monetary capital. --In addition to accounting profits offering the principal incentive for the businessman to invest, they are also considered to be a factor in the ease with which this investment can be financed. Under modern conditions the process of capital allocation is achieved through two media: the market for new issues and the re-investment of earnings by already established concerns.⁸¹ Accounting is avowed to influence both of these media.

⁸⁰U. S. Congress, Corporate Profits, Hearings Before the Joint Committee on the Economic Report, 80th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 87.

⁸¹Buchanan, op. cit., p. 229.

Individuals with liquid resources to invest will place these funds in such a way as to secure the greatest return.⁸² These returns tend to be judged by the earnings reports of the corporations. Furthermore, "It is often assumed that such statements offer a reliable indication of the productivity of additional capital."⁸³

This increased demand for the stock in the profitable companies tends to bid up the price of their stock. Cox summed up the influence of reported profits on the price of securities in these words:

It is a commonplace that corporate earnings are a major factor in determining the price of common stocks. . . . Granting that official statements do not always reflect the true earnings, they constitute, nevertheless, the principal earnings data upon which the investing public and the business analyst must rely.

. . .⁸⁴

The resulting increase in the price of shares facilitates the raising of outside equity capital. Tinbergen thinks that share prices exerted a considerable influence on the course of the American cycle beginning in 1924, and having its boom year in 1929. He states that "share prices have an influence on the ease with which capital issues may be floated and therefore on investment in general."⁸⁵

⁸²Ibid.

⁸³Ibid.

⁸⁴Garfield V. Cox, "The Relation of Stock Prices to Earnings," The Journal of Business, October, 1929, p. 383.

⁸⁵J. Tinbergen, "The Dynamics of Share-Price Formation," The Review of Economic Statistics, November, 1939, p. 153.

Although the question of dividends versus earnings as a factor in stock prices has been debated in business and economic literature for some time,⁸⁶ one authority concluded that: "It appears, as would be expected, that earnings have more influence than dividend payments in the determination of stock prices."⁸⁷ While Tinbergen and Polak state that share prices are largely determined by dividends, they think that dividend policy is largely determined by profits: ". . . Since dividends are largely determined by profits, and share prices in turn by dividends, the yield of shares will also depend to a considerable extent on the level of profits."⁸⁸

In summary, the chain of causation from accounting profits to investment via security prices runs as follows: The reported profits affect the price of shares, the price of shares affects the ease with which monetary capital can be raised, which in turn, affects investment decisions. In fact, Buchanan considers this relationship between recorded profits and stock prices as the most important link between accounting practices and the business cycle: "In the writer's opinion, the most important connection between variations in accounting profits

⁸⁶This question will be considered further in Chapter VI.

⁸⁷Alfred Cowles 3rd and Associates, Common Stock Indexes 1871-1937 (Bloomington, Indiana: Principia Press, Inc., 1938), pp. 44-46.

⁸⁸Tinbergen and Polak, op. cit., p. 167.

and expectations is through the market for already outstanding security contracts. . . ."⁸⁹

In addition to the influence of accounting profits on investment via the price of shares, it is stated that it has a more direct influence on businesses which cannot, or do not wish to, make use of the capital market since these businesses regard profits as the main source of investment funds. Tinbergen and Polak point out this tendency:

Since each entrepreneur prefers to invest in his own enterprise and many enterprises do not have access to the capital market or even to bank credit, the level of profits is an important limitation of investment. Large profits may even be the cause of investments that in themselves would be hardly justified, or not at all. . . .⁹⁰

Accounting profits are not only influential in the raising of equity capital, but also tend to influence the ability to raise borrowed capital.⁹¹ This is exemplified in the practice of expressing the relation of earnings to interest requirements and is often stated in such terms as "times interest earned", "earnings coverage", etc. As to what is meant by "earnings" in these expressions one writer has stated: "In all cases the inference one draws is that the word 'earnings' means past and perhaps present earnings."⁹²

⁸⁹ Norman S. Buchanan, "Towards a Theory of Fluctuations in Business Profits," The American Economic Review, December, 1941, p. 751.

⁹⁰ Tinbergen and Polak, op. cit., p. 167.

⁹¹ Buchanan, The Economics of Corporate Enterprise, p. 227.

⁹² Gilbert Harold, Bond Ratings As an Investment Guide (New York: The Ronald Press Company, 1938), p. 62.

Summary of Chapter

Abstracting away the heavy hand of government and ignoring foreign investment,⁹³ the gross national product is composed of consumers' expenditures and investment expenditures. The thesis of most modern writers on business fluctuations that in a private enterprise economy it is business spending that is the more active of the two in affecting the level of employment and income has been accepted.⁹⁴ In any study of a factor that is believed to accentuate the fluctuations of business, therefore, attention should be directed primarily to the determinants of private investment expenditures.

Since it is the entrepreneur who makes the investment decisions, an evaluation of any factor that is presumed to accentuate business fluctuations boils down primarily to the question as to how this factor motivates businessmen relative to their investment decisions. They are assumed to invest in such a way as to maximize their expected future profits. They are further assumed to judge future profit prospects by present and past profits. The measurement of these past business profits, however, is the special function of the accountant

⁹³The reasons for eliminating these two types of expenditures were given in Chapter I.

⁹⁴The effect of accounting methodology on consumption is not wholly ignored and will be discussed in Chapters VII and VIII.

and it is on the accountant's figures that businessmen tend to rely. Furthermore, accounting profits are considered to be a factor in the raising of monetary capital with which to implement these investment decisions.

Given the assumptions, a relationship of accounting profits to business investment decisions and, hence, through investment decisions, to business fluctuations would appear to be demonstrated.

CHAPTER III

THE MISSTATEMENT OF PROFITS BY ACCOUNTANTS AS A REINFORCING FACTOR IN BUSINESS FLUCTUATIONS

The demonstration of some sort of relationship between accounting profits and business fluctuations via investment decisions, however, is not the same as establishing that accounting methodology is a factor in accentuating these fluctuations. Before this link can be forged, it must be shown how accounting methods are thought to misstate profits and, moreover, that they tend to overstate profits on the upswing and understate them on the downswing, thereby causing the entrepreneur to invest more during the upswing than would be the case if profits were measured in some other fashion.

Furthermore, when one speaks of an overstatement or an understatement of profit, this misstatement must be relative to some standard. This standard is usually referred to as "economic profit". Before proceeding with an examination into how the misstatement of profits by accountants, as judged by this standard, is said to cause businessmen to overinvest during prosperity and

underinvest during depression, it is pertinent, therefore, to inquire into the nature of accounting profit and "economic profit". Furthermore, since the definition and measurement of profit are so inextricably interwoven with the theories of its origin, an investigation is made into these theories.

Postulates Underlying the Measurement
of Accounting Profits

Revenue arises at the moment when realization is deemed to take place. --One of the most widely enunciated accounting postulates underlying business income determination is that revenue is recognized in the accounts only when it is realized, i. e., evidenced and supported by a genuine asset, preferably in liquid form. Many possible bases have been suggested for recognizing revenue.¹ The sale has emerged as being the step in the productive process at which revenue is generally recognized. Heilman has stated that the desirable characteristics of revenue are: (1) that it be considered definitely ascertainable, (2) the certainty of receipt be high, (3) a legal cause of action against outsiders should be present, and (4) it should be possible to include the amount in liquid funds which will

¹Russell Bowers has suggested seven steps in the productive process at which revenue could be recognized. "Tests of Income Realization," The Accounting Review, June, 1941, p. 142.

shortly be available for expenditures or distribution.² Of the possible bases of recognition of revenue, the sale comes nearest to meeting these criteria. "The sale is the end-product of operating activity;"³ as a rule transfer of product to the customer is coupled with passage of title: "with sale, product is converted into new, measurable assets, cash or receivables."⁴

The sale has been criticised as being both too conservative and not conservative enough.⁵ The sale is said to be too conservative because income is earned through the productive process. Here the accountant stresses realization as distinct from earning as a criterion.⁶

Those who think that the sale is not conservative enough have

²E. A. Heilman, "Realized Income," The Accounting Review, June, 1929, p. 81.

³W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards (American Accounting Association, 1940), p. 46.

⁴Ibid.

⁵W. A. Paton, Advanced Accounting (New York: The Macmillan Company, 1947), pp. 441 f.

⁶Exception is made to the same where there is definite assurance of collections such as in the case of cost-plus contracts and construction projects, or in other cases where the product has a ready market and accretion has taken place so that recognition of all the revenue at any one time would cause distortion.

in mind the "after costs" of the sale, e.g., returns, collections, expenses, and bad debts. The accountant may allow for these through the deduction of estimates based on past experience.

The "Sale" is not restricted to physical merchandise, rather a broader view of business activity is adopted. "Revenue is a generic term for (a) the amount of assets received or liabilities liquidated in the sale of the products or services of the enterprise (b) the gain from the sales or exchanges of assets other than stock in trade, and (c) the gain from advantageous settlements of liabilities."⁷

Fluctuations in the value of the monetary unit, which is the accounting symbol, may be ignored. --This postulate is among the oldest in accounting.⁸ It has become axiomatic that financial accounting is based on the "cost principle". "Factors of production and other resources of an enterprise are measured at the date of acquisition by costs incurred or amounts invested, on a cash or cash-equivalent basis."⁹ The cost of any factor of production represents "at

⁷ American Accounting Association, Executive Committee, "Concepts and Standards Underlying Accounting Statements," The Accounting Review, October, 1948, p. 341.

⁸ American Institute of Accountants, Changing Concepts of Business Income A Report of Study Group on Business Income (New York: The Macmillan Company, 1952), p. 20.

⁹ American Accounting Association, "Accounting Principles Underlying Corporate Financial Statements," The Accounting Review, June, 1941, p. 134.

the outset the true economic significance of the factor."¹⁰

Costs to be acceptable to the accountant must be objective.

Thus accountants frown on imputed costs. Consequently, "recognition of costs does not extend to hypothetical interest on capital, nor to imaginary transactions covering services of owners."¹¹ Costs to the accountant must be verifiable. As one writer has said: "The accounting apparatus grips most firmly those figures that are based on original cost, figures that are as comfortable as old friends and as unchanging, tried as they are by the acid test of the paid voucher."¹²

Once a cost has been incurred, it remains unaltered except as it expires in the earning of revenue. "The assumption that recorded dollar cost continues to represent actual cost permeates accounting thought and practice, as it does the law."¹³ Accounting in other words "assumes a stable measuring unit."¹⁴ Cost is, therefore, not synonymous with value "except to the extent that cost and value are presumed to coincide on the date that the expenditure is

¹⁰Paton and Littleton, op. cit., p. 22.

¹¹Ibid., p. 24.

¹²Solomon Fabricant, "Revaluation of Fixed Assets, 1923-1934," National Bureau of Economic Research Bulletin No. 62 (New York: National Bureau of Economic Research, December 7, 1936), p. 9.

¹³Paton and Littleton, op. cit., p. 23.

¹⁴Ibid.

made or contracted".¹⁵ The position is taken that: "Original cost, though it may lose much of its economic significance in periods of rapid price change, remains an objectively determinable fact."¹⁶

Accountants have recognized that "in periods of major price movements this assumption is clearly invalid for certain purposes, as has been pointed out by various writers in recent years,"¹⁷ and, therefore, "interpretative accounting faces a challenge at this point."¹⁸ Accountants have taken the position, however, that "significant changes in the price level, when needed to interpret the financial statements correctly should be disclosed parenthetically, by footnote, or in a supplementary schedule."¹⁹

The business entity is considered a going concern. --This postulate is an assumption that must not be lost sight of in any discussion of economic profit. It is the only sound foundation upon which a system of periodic income measurement could be built, and is justified, in the main, by experience,²⁰ especially among the larger businesses.

¹⁵ Maurice H. Stans, "Recovery in Price of Plant Costs Financial Accounting Approach," National Association of Cost Accountants Yearbook, 1945, p. 55.

¹⁶ Sidney Davidson, "Depreciation and Profit Determination," The Accounting Review, January, 1950, p. 56.

¹⁷ Paton and Littleton, op. cit., p. 23.

¹⁸ Ibid.

¹⁹ American Accounting Association, op. cit., The Accounting Review, October, 1948, p. 343.

²⁰ Paton and Littleton, op. cit., p. 22.

This postulate helps to explain the reluctance of accountants to recognize the change in values of the assets of the concern due to changing price levels.²¹ Since the assets were bought for use in the business and not for sale, the position is taken that the effect on profit of changes in the value of the assets should be recognized gradually in the profit and loss statement via the depreciation charges as the assets are used in operations.²²

From a going concern angle, the period is one of the important conventions of accounting. This convention is subject to limitations especially in a dynamic economy characterized by business fluctuations. The income for a period is regarded as a "test reading" since no one can know the income of a business, with any exactness, except in retrospect after it has closed its doors in liquidation. Gilman stated this fact as follows:

Periodic accounting profit represents an interim profit computation based upon estimates which are accurate only (1) when the sum of the period profits so computed is equal to the profit

²¹The amortization of historical cost and the going concern concept are seen as incompatible by some writers; see, Carl Thomas Devine, "Depreciation and Income Measurement," The Accounting Review, January, 1944, p. 43; also, K. Lacey, "Profit Measurement and the Trade Cycle," The Economic Journal, December, 1947, p. 459.

²²It is the effect on profit measurement of this recognition of the expiration of historical cost that is most often attacked by economists, see "The Accountants' 'Misstatement' of Profit," infra.

computable for the entire life of the entity from inception to termination, and (2) when the items of income, cost, expense, or loss employed in the computation of profit for any one period are not properly assignable to another period.²³

The American Institute of Accountants has also recognized that the annual income statement is "a tentative instalment in the long-time financial results"²⁴ of an enterprise.

The difference between revenue and the costs deemed to have expired during the accounting period is profit. --Considering revenues as positive and assigned costs as negative, accounting profit is the algebraic sum of the two. According to the American Accounting Association: "Income is measured by matching revenues realized against costs consumed or expired in accordance with the cost principle."²⁵

The accountant's principal task in measuring profit is thus to determine what part of original cost should be written off to reflect

²³Stephen Gilman, Accounting Concepts of Profit (New York: The Ronald Press Company, 1939), pp. 604 f.

²⁴American Institute of Accountants, Committee on Accounting Procedure, "Combined Statement of Income and Surplus," Accounting Research Bulletin No. 8, February, 1941, p. 64.

²⁵American Accounting Association, op. cit., The Accounting Review, June, 1941, p. 136; Concerning the accountant's figure for profit, one writer has remarked: "What is set out as a measure of net income can never be supposed to be a fact in any sense at all except that it is the figure that results when the accountant has finished applying the procedure which he adopts." John B. Canning, The Economics of Accountancy (New York: The Ronald Press Company, 1929), pp. 98 f.

consumed, expired, or lost usefulness, and what part should be carried forward to be written off over future periods. "Historical accident, changing price levels, and accounting assumptions have considerable influence upon the income computed by the accountant."²⁶

Theories of the Origin of Profits

Theories of the origin of profits have developed along three lines. --"In the idealized society of equilibrium theory there would be no occasion for assigning a distinctive name of profit to any form of return."²⁷ Wages would be paid for personal services and property claims would be taken care of in the form of interest and rent.²⁸ In the dynamic "real world", however, a fourth type of income does sometimes occur in the short-run under competitive conditions²⁹ and even in the long-run under noncompetitive conditions.³⁰

The theories of the origin of these profits have developed along three different lines:³¹ first, profit in excess of interest on

²⁶George R. Husband, "That Thing Which the Accountant Calls Income," The Accounting Review, July, 1946, p. 254.

²⁷Frank H. Knight, "Profit," Encyclopaedia of the Social Sciences, XII (1933), 482.

²⁸Ibid.

²⁹Ralph H. Blodgett, Principles of Economics (New York: Rinehart and Company, 1951), p. 401.

³⁰Ibid., p. 407.

³¹Robert A. Gordon, "Enterprise, Profits, and the Modern Corporation," Readings in the Theory of Income Distribution (Philadelphia: The Blakiston Company, 1946), p. 560.

capital as a return in the long-run for the exercise of a productive function; second, a concept of "pure" profit accruing to the owners of a business enterprise after allowing for interest on capital and wages of management; third, an unearned income attributable to "institutional monopolies".

The theories of profit origin have been frequently classified as functional or non-functional. The fact that profits under laws of private property accrue to the owner of the enterprise after all contractual costs have been paid has largely determined the form which profit treatment has taken.³² Bowman accepts this residual nature of profit as basic:

The profit concept of the economist may be viewed in various ways, but it is the opinion of the present writer that one general concept is basic. The term profits is used to describe the income of a certain class of individuals. For instance, all individuals who receive income the amount of which was not definitely contracted for in advance may be said to receive profits.³³

Those who hold the view that profits are a return for the exercise of some function usually designate the function as the coordination and control of the other factors of production. Risk-bearing is sometimes mentioned as a second function. This theory looks at

³²Ibid., p. 558.

³³Raymond F. Bowman, A Statistical Study of Profits (Philadelphia: University of Pennsylvania Press, 1934), p. 4. For a similar point of view see, Edwin G. Nourse, Price Making in a Democracy (Washington: The Brookings Institution, 1944), p. 84.

profit as a true income for services rendered. Dobb³⁴ states that the Entrepreneur Function is in reality two functions: (1) to preserve the balance between producing groups so that the marginal utility covers the marginal costs and to regulate the distribution of economic resources so that the marginal yield between the alternative uses is approximately equal, (2) to promote changes in the condition of supply of the factors and techniques of production so as to increase the yield of human effort as much as possible. Hawley has been one of the greatest champions of the payment-for-risk theory.

. . . But if science is to justify the popular conception of profits as fundamentally distinct from other kinds of income, it must do so by pointing to something the undertaker does for pay which is rewarded by neither wages, nor interest, nor rent. . . . Now just such a peculiar function of the undertaker is found in his being the person who relieves others of risk. . . .³⁵

In the United States the usage has tended toward the concept of "pure profit" after a deduction of wages, rent, and interest at the competitive rates for human and property services employed in the enterprise, explicit as well as implicit.³⁶ Blodgett defines profit as "The excess money income received by the business enterprise or

³⁴ Maurice Dobb, Capitalist Enterprise and Social Progress (London: George Routledge and Sons, Ltd., 1925), p. 39.

³⁵ Frederick B. Hawley, "The Fundamental Error of 'Kapital and Kapitalzins'," The Quarterly Journal of Economics, April, 1892, p. 283.

³⁶ Knight, op. cit., p. 482.

firm over and above the amounts necessary to remunerate all the agents of production, both those owned inside the business and those owned outside, at their full competitive rates.³⁷ This view of profits is a non-functional one since profits are "unnecessary, unearned, and un-imputable"³⁸ and tend to be received by the owner of the last agent of production to be paid.³⁹

Marx and the Socialists merged land with capital and obtained a concept of profit as including all non-labor income. This amalgamation combined with the classical notion that labor was the sole producer of all wealth led to the socialistic view of profit as one of labor exploitation.⁴⁰

Many writers do not adhere to a single theory of profits.-- Not all writers on profit, however, have adhered strictly to any one theory of profits. Knight, for example, adopted a theory of profits combining the conception of risk, of economic change, and the role of business ability.⁴¹ Knight makes a distinction between risk and uncertainty. Risk proper is a "measurable uncertainty" while true

³⁷ Blodgett, op. cit., p. 399.

³⁸ Ibid., p. 400.

³⁹ Ibid.

⁴⁰ Knight, op. cit., p. 48.

⁴¹ Knight, op. cit., p. 484.

uncertainty cannot be measured.⁴² According to Weston, the relevant difference for profit theory is not between risk and uncertainty but between transformable risk and non-transformable risk.⁴³ A risk is transformed when it is converted into a definite cost through some risk administering device or institution and hence does not give rise to profit since it has been eliminated from expectations. It is non-transformable or non-transformed risk that gives rise to profit.⁴⁴ Profit is the difference between ex ante and ex post incomes⁴⁵ and is non-functional.

Economists holding to the second view of profits are in agreement with the third group that profits are unearned, but they tend to think of them as short-run phenomena that will tend to be eliminated in the long-run under competition.⁴⁶ Under non-competitive conditions, however, profits can exist indefinitely.⁴⁷

Many economists emphasize economic change in accounting for the origin of profits. Weston says:

⁴² Frank H. Knight, Risk, Uncertainty and Profit (New York: Houghton Mifflin Company, 1921), p. 20.

⁴³ J. Fred Weston, "A Generalized Uncertainty Theory of Profit," The American Economic Review, March 1950, p. 44.

⁴⁴ Ibid.

⁴⁵ Ibid., p. 46.

⁴⁶ Blodgett, op. cit., p. 401.

⁴⁷ Ibid., p. 407.

To attribute a central role to profit maximization in static equilibrium analysis must lead to confusion because static analysis abstracts from the very condition which gives rise to economic profit. Profit is, therefore, a concept which must be analyzed in a framework of dynamic analysis.⁴⁸

Knight speaks of the "great and overtowering" problem in connection with changing price levels "and business conditions generally referred to as business cycles".⁴⁹

The Problem of Measuring "Economic Profit"

The traditional contrast in viewpoint of accountants and economists relative to business profits. --Traditionally, accountants have taken very little interest in the origin of profits.⁵⁰ They have been interested primarily in measuring profits, in "determining in dollars and cents the 'amount' of profits for given periods of time."⁵¹ They have taken for granted that profits, as they define them, are present and along with the businessman have viewed profits as a measure of accomplishment.

Historically, economists, on the other hand, have not been interested in the problem of the measurement of profits. They have

⁴⁸Weston, op. cit., p. 54.

⁴⁹Knight, op. cit., Encyclopaedia of the Social Sciences, p. 485.

⁵⁰S. H. Nerlove, "Recent Writings on Profits," The Journal of Business, October, 1929, p. 367.

⁵¹Ibid.

been more interested in explaining why profits appear, why they are tolerated, and in deciding what determines who shall receive the benefit of them.⁵² Here profit is considered a social phenomenon associated with the distribution of the proceeds of society's productive activities among the factors responsible for that production.⁵³ In recent years, however, there is evidence that economists are abandoning this viewpoint. In measuring the national income and in acting in an advisory capacity to business firms they have had to meet the problem of profit measurement. Economists have come to realize that their concept of profit, to have meaning, must be measurable. Likewise, accountants are coming to realize that they cannot intelligently measure what they do not understand conceptually. Hence, the traditional differentiation in viewpoint of the two disciplines relative to profits is tending to break down.

An idealized measurement of economic profit. --Hicks's definition of income has been adopted by most economists. He has defined a man's income as "the maximum value which he can consume during a week and still expect to be as well off at the end of the week as he was at the beginning."⁵⁴ While Hicks is referring here to a person,

⁵²A. C. Littleton, "What is Profit?" The Accounting Review, September, 1928, p. 278.

⁵³Ibid.

⁵⁴J. R. Hicks, Value and Capital (2d ed.; Oxford: at the Clarendon Press, 1950), p. 172.

he later applies the same concept to a firm and calls it "profit".⁵⁵ Economists have, however, tended to make a distinction between the terms "income" and "profit". Fetter has stated this difference as follows:

In economic usage the term income is still, in greater part, applied broadly to things accruing to individuals and available for consumption; whereas profits are peculiarly the impersonal yield of any business no matter what the type of ownership. In conformity with earlier and long established usage it would not be permissible to speak of the 'income' of a corporation. . .

. . .
⁵⁶

Although Hicks has given the economists a widely quoted definition of business income, or profit, he does not think much of it as a tool of analysis. In speaking of Income, Saving, Depreciation, and Investment, he has said: "At bottom, they are not logical categories at all; they are rough approximations, used by the business man to steer himself through the bewildering changes of situations which confront him."⁵⁷

Many accountants also accept Hick's concept of income as an ideal. Speaking of Hick's income concept Devine says: "With few exceptions, the accountant probably accepts as an ideal the function

⁵⁵Ibid., p. 196.

⁵⁶Frank A. Fetter, "Reformulation of the Concepts of Capital and Accounting," The Accounting Review, March, 1937, p. 10.

⁵⁷Hicks, op. cit., p. 171.

of income figures as measures of the amounts which a man can consume or a corporation can distribute without impairing future earning possibilities."⁵⁸

Maintaining capital intact. --Inherent in Hick's definition of profit is the idea that capital must be kept intact. One writer has emphasized this as follows: "For a corporation to be as well off at the end of the year as at the beginning must mean that the value of the owners' equity at year's end equals the value at the beginning of the year. This is frequently expressed as 'maintaining capital intact'."⁵⁹ The problem of measuring income is thus inseparable from measuring changes in the value of capital.⁶⁰ Pigou also highlights the capital intact requirement of net income by stating that in a stationary state "net income consists of the whole of the annual output minus what is needed to maintain the stock of capital intact."⁶¹ The idea of "maintaining capital intact" is clearcut in a stationary state and means that the physical stock of capital is to be kept intact, i.e., "its physical

⁵⁸ Carl Thomas Devine, "Depreciation and Income Measurement," The Accounting Review, January, 1944, p. 40.

⁵⁹ Sidney S. Alexander, "Income Measurement in a Dynamic Society," Five Monographs on Business Income (New York: American Institute of Accountants, 1950), p. 15.

⁶⁰ Ibid.

⁶¹ A. C. Pigou, "Net Income and Capital Depletion," The Economic Journal, June, 1935, p. 235.

state is held constant."⁶² Dean also stresses that net income "aims at preservation of stockholders' real capital."⁶³

The "maintainence of capital intact" in a dynamic economy is, however, an ambiguous concept. Fabricant has said: "It is extremely difficult to compose an unambiguous definition of capital-consumption--of what is meant by keeping capital intact--for an economy characterized by cyclical movements and secular trends in its every element."⁶⁴ Sweeney⁶⁵ discusses four different concepts of maintaining capital intact:⁶⁶ (1) the maintenance of relative capital, (2) the maintenance of absolute material capital, (3) the maintenance of absolute nominal capital, and (4) the maintenance of real capital based on price indices.

The object of the maintenance of relative capital is to preserve for the business entity the same proportion of the total social

⁶²Ibid.

⁶³Joel Dean, "Measurement of Profits for Executive Decisions," The Accounting Review, April, 1951, p. 186.

⁶⁴Solomon Fabricant, "On the Treatment of Corporate Savings in the Measurement of National Income," Studies in Income and Wealth, Vol. I (New York: National Bureau of Economic Research, 1937), p. 141.

⁶⁵Henry W. Sweeney, "Maintenance of Capital," The Accounting Review, December, 1930, pp. 286 f.

⁶⁶See, Robert B. Bangs, "The Definition and Measurement of Income," The Accounting Review, September, 1940, p. 369, for a more detailed list of the senses in which capital maintenance may be used.

capital that was possessed at the time the capital was originally invested.⁶⁷ Very few accountants or economists would accept this view. Men do not usually enter business to vie with one another for the relative share of whatever general economic goods the community may have. According to the second view, maintenance of capital means preservation of the same amount of material physical objects.⁶⁸ A person or a business is assumed to have kept capital intact if, for example, the same kind of machine is possessed in as good condition as that in which the original investment was made. The third viewpoint, the maintenance of absolute nominal capital, is that postulated by traditional accounting theory. The fourth concept, the maintenance of real capital based on price indices, Sweeney subdivides into two categories:⁶⁹ (1) Maintenance of individual real capital--the original absolute command exercised by the capital over the goods and services of most importance to the particular concern--and (2) maintenance of general real capital or the preservation of general purchasing power.

Thus it can be seen that although maintaining capital intact is conceptually simple in a stationary economy, it is exceedingly complex in a dynamic one. While net income is still the balance of the

⁶⁷ Sweeney, op. cit., p. 277. Sweeney states that F. Schmidt "is sponsor of this view," ibid.

⁶⁸ Ibid., p. 279.

⁶⁹ Ibid., p. 283.

gross income over what is needed to keep capital intact, "the notion of keeping capital intact is no longer clear-cut; and this fact prevents the notion of net income itself from being clear-cut."⁷⁰ Hicks says, "We shall be well advised to eschew income and savings in economic dynamics. They are bad tools, which break in our hands."⁷¹ Dean admits that his own concept of business income "is an unattainable ideal."⁷²

The absence of any single criterion of economic profit. --

In 1895 Professor Taussig referred to profit as a "mixed and vexed income."⁷³ Long after this article was written there was still evidence that profit has remained a "mixed and vexed" income. Knight said in 1933: "Perhaps no term or concept in economic discussion is used with a more bewildering variety of well established meanings than profit. . . ."⁷⁴ Intervening writers on the subject have commented upon this same difficulty of finding an unambiguous and workable theory of profit.⁷⁵

⁷⁰Pigou, op. cit., p. 235.

⁷¹Hicks, op. cit., p. 177.

⁷²Joel Dean, Managerial Economics (New York: Prentice-Hall, Inc., 1951), p. 14.

⁷³F. W. Taussig, "The Employer's Place in Distribution," The Quarterly Journal of Economics, October, 1895, p. 86.

⁷⁴Encyclopaedia of the Social Sciences, op. cit., p. 480.

⁷⁵e.g., Maurice Dobb, ". . . We discover instead, that the theory of profits is still perhaps the darkest part of the whole subject

Furthermore, the preceding investigation into the theory of the origin of profit and the problems involved in its measurement has failed to reveal any definite agreement among the various writers. Thus one must inevitably reach the conclusion that the term "economic profit" does not have a clear-cut conceptual boundary nor has any economist come up with a satisfactory measurement of profit.⁷⁶ In other words, the standard against which accounting profits are said to be measured is itself a will-o'-the-wisp. When one speaks of "economic profit", therefore, the term itself is meaningless unless defined explicitly or by context.

Since the statement has been reiterated so frequently, however, that accounting profits are a misstatement of "economic profits", the next task will be to inquire more specifically into the exact meaning of this misstatement.

The Accountants' "Misstatement" of Profit

Accounting postulates of income determination considered from an economic point of view. --Which, if any, of the accounting

of economic distribution. . . ." Op. cit., p. 62; and S. H. Nerlove, ". . . Both the businessman and the professional economist are in great need of a workable profit theory at the present time." Op. cit., p. 382.

⁷⁶One economist has solved the problem of what business income is by stating that "Economists should mean by 'business income' in the first instance what accountants say it is; the 'income of a business' should be defined basically by a set of accounting conventions." Morris A. Copeland, "Suitable Accounting Conventions to Determine Business Income," The Journal of Accountancy, February, 1949, p. 107.

postulates of income determination do economists reject? If accounting profits are misstated according to economists, then it must be because economists disagree with the basic accounting postulates. Let us consider the first postulate, i.e., that the sale is the basis for recognizing revenue. F. Schmidt himself says:

. . . A further question arises as to how an increase over the initial assets can be produced. It can result only from the activity of the enterprise, and that activity is called umsatz (sale or exchange). Only through a sale or exchange transaction can the assets of an enterprise be increased. . . .⁷⁷

Thus economists would seem to have no particular quarrel with the sale as the test of gross income.⁷⁸

Neither does the economist object to the going concern concept interpreted narrowly. Dean has said: "For corporations, life is eternal, and net income can be measured as the maximum amount that can be distributed in dividends (theoretically from now into the indefinite future) without impairing the company's earning power."⁷⁹ Likewise, when the economist capitalizes the income of a business by dividing its income by the interest rate and assigns this present value of a perpetuity as the value of the business, he is in effect

⁷⁷Fritz Schmidt, "The Importance of Replacement Value," The Accounting Review, September, 1930, p. 235.

⁷⁸It is true that economists hold out for a production theory of revenue for the economy as a whole, but at the firm level this seems to represent a minority viewpoint.

⁷⁹Dean, op. cit., p. 14.

adopting a going concern concept. When the accountant lists going concern as the basis for refusal to recognize change in value, however, the harmony of viewpoint ceases.

Many economists will go along with the accountant's acceptance of cost at the time of acquisition as a satisfactory measure of value. This acceptance is illustrated in the words of one economist as follows: "In the overwhelming majority of cases, of course, cost is a practically satisfactory measure of the value of assets at the time of acquisition, and this fact, added to its obvious availability and convenience, has made it almost universally the depreciation base for purchased assets."⁸⁰

It does not necessarily follow from this, however, that economists accept original costs as relevant beyond the time of acquisition. Schmidt says,

Replacement costs as of the day of sale must be the fundamental values for profit and loss calculation. Only this can show the manager of the business whether or not his production or trading is profitable at a given time, whether or not a business entanglement is necessary, due to good profits, or whether, in consequence of a decrease in the selling margin, curtailment is necessary.⁸¹

⁸⁰George Terborgh, Realistic Depreciation Policy (Chicago: R. R. Donnelley and Sons Company, 1954), p. 24.

⁸¹Schmidt, op. cit., p. 240.

In other words, in terms of the maintenance-of-capital arguments,⁸² most economists object to the accountant's traditional emphasis upon the maintenance of nominal capital in determining net profit. Furthermore, most modern economists reject the idea that maintenance of capital means the preservation of the same amount of material physical objects. They insist that it is the investment in the asset that should be kept intact. Terborgh states: "I do not believe the function of depreciation is to maintain the physical capacity of the incumbent asset. Instead it is to recover the capital committed to the asset."⁸³

This concept of the "maintenance of capital" that is largely insisted on today is in harmony with Sweeney's fourth concept⁸⁴ and, thus, the argument over the measurement of profit largely simmers down to what constitutes the relevant costs to be deducted from revenue in arriving at net profit. In other words, the ignoring of the fluctuations in the value of the monetary unit in the computation of costs constitutes one of the main objections of those who insist that accountants misstate profits. This viewpoint is exemplified by the following definition of

⁸²See discussion on "Maintaining capital intact," supra.

⁸³George Terborgh, "Economic Aspects of Underdepreciation," Replacement Costs and Depreciation ("Studies in Business Economics, No. 27"; New York: National Industrial Conference Board, January, 1948), p. 6.

⁸⁴See discussion of Sweeney's four concepts of maintaining capital intact, supra.

economic profit: "Economic profit, then, is the difference between current revenues and current costs. It represents the difference between the economy's current valuation of the goods and services rendered by the firm and its current valuation of the goods and services used by the firm. . . ."⁸⁵

Moreover, this insistence on the use of current costs in profit measurement is shared by many accountants. Paton, an accountant-economist, says:

All accountants give their allegiance to the view that in case of purchased items cost is the best measure of initial value and hence the proper point from which to start the accounting record. This is the sense in which accounting is based on cost. But it doesn't at all follow that recorded cost continues to represent the original economic quantum when a change has taken place in the significance of the measuring unit itself. . . .⁸⁶

While the critics of accounting methods of profit measurement are in substantial agreement that it is the maintenance of the investment in the asset--i.e., the maintenance of purchasing power--that is to be kept intact, they are not in accord as to how the

⁸⁵Edgar O. Edwards, "Depreciation Policy Under Changing Price Levels," The Accounting Review, April, 1954, p. 269.

⁸⁶William A. Paton, "Measuring Profits Under Inflation Conditions: A Serious Problem for Accountants," The Journal of Accountancy, January, 1950, p. 20. Willard J. Graham has made a similar statement: ". . . I have firm personal convictions that current costs, and only current costs, should enter into the determination of income. . . ." "The Effect of Changing Price Levels Upon the Determination, Reporting, and Interpretation of Income," The Accounting Review, January, 1949, p. 15.

maintenance of purchasing power should be determined. The argument still continues as to whether this purchasing power should be measured in terms of specific assets or in terms of generalized purchasing power. Terborgh, a proponent of the generalized purchasing power theory says: "If it is a lathe that is being depreciated, the charge is properly the same regardless of whether the funds are spent for another lathe, a milling machine, a typewriter, a locomotive, or a trip to Europe."⁸⁷ This viewpoint was also adopted by the Committee on Concepts and Standards Underlying Corporate Financial Statements of the American Accounting Association:

The effects of price fluctuations upon financial reports should be measured in terms of the over-all purchasing power of the dollar--that is, changes in the general price level as measured by a GENERAL price index. For this purpose, adjustments should not be based on either the current value or the replacement costs of specific types of capital consumed.⁸⁸

With a stable price level, the accounting method of profit measurement is more acceptable to economists. --Under the above

⁸⁷ George Terborgh, Depreciation Policy and the Postwar Price Level (Chicago: Machinery and Allied Products Institute, 1949), p. 10.

⁸⁸ The American Accounting Association, Committee on Concepts and Standards Underlying Corporate Financial Statements, "Price Level Changes and Financial Statements," The Accounting Review, October, 1951, p. 471. For the viewpoint that the purchasing power that is to be kept intact applies to specific assets see, William Blackie, "What Is Accounting Accounting For - Now?" National Association of Cost Accountants' Proceedings, 1948, p. 37.

concept of the maintenance of capital, if prices did not change, and if the cost of an asset should generally be equal to the present value of an associated future stream of receipts, the difference between the economist's and the accountant's concept of income and capital would be narrowed considerably.⁸⁹ As Dean says: "Even though accountants and economists start from widely different viewpoints in measuring income, they could conceivably come up with the same estimates, but this could occur only in a stationary economy, where prices were frozen and where competition insured that cost was a good measure of value. . . ."⁹⁰

Although the difference between accounting profit and so-called economic profit is narrowed under a stable price level, all the difference is not eliminated. The majority of American economists hold to a concept of "pure profit."⁹¹ This remaining difference in viewpoint is primarily due to the reluctance of the accountant to recognize implicit costs. If the business is a sole proprietorship or a partnership, the residual income as computed by the accountant will contain elements of both wages and interest. If the firm is a corporation, the accountant's profit figure still includes interest on the stockholders'

⁸⁹Alexander, op. cit., p. 9.

⁹⁰Dean, op. cit., The Accounting Review, p. 187.

⁹¹See discussion "Theories of the origin of profits have developed along three lines," supra.

investment. Even in case of the corporation, however, the wage deduction is not clear-cut since "management" may receive more or less than the competitive rate of return.⁹²

In the sense of "pure profits", therefore, we could always say that accounting profits were misstated and, more specifically, "over-stated". As one writer has so aptly said: ". . . Profit in the economic sense of the term is not essential to the continued operation of an established enterprise. Profit in the business sense of the term is a necessary income, since no one would remain long in business unless he obtained a return representing interest on his capital and wages for his labor."⁹³ It could be argued that the overstatement of profits in this sense is an accentuating factor in the upswing and a stabilizing factor in the downswing. This unilateral argument, however, has not been utilized by those who think that accounting methods accentuate business fluctuations and will not be considered further in the discussion of the misstatement of profits by accountants.

Accounting methods are said to misstate economic profits with fluctuating price levels. --"In the real world of business cycles, wars, and technological revolutions,"⁹⁴ however, as has been shown,

⁹² Knight, Encyclopaedia of the Social Sciences, op. cit., p. 482.

⁹³ Alvin S. Johnson, Introduction to Economics (Rev. ed.; New York: D. C. Heath and Co., Publishers, 1922), p. 287.

⁹⁴ Dean, The Accounting Review, op. cit., p. 187.

the economist is not willing to accept the accountant's customary measurement of business profit. Since a private enterprise economy is a dynamic one, this means most of the time. Accounting records and statements are based on "hetero-temporal prices."⁹⁵ Sales are recorded at current prices while the costs matched against these sales are based on historical prices which, if prices are fluctuating, means a different price level. Business income thus becomes a hodge-podge and "reflects partly the stage of the business cycle we happen to be in."⁹⁶

Dean points out that:

Orthodox accounting vigilantly keeps ordinary revaluations from getting into the profit and loss account--by treating them as surplus adjustments. But when revaluations find their way into the accounts indirectly, by the process of turnover of assets during inflation, they do get into the earnings account. . . . Hence, accounting profit overstates real business income, not only during an inflation but for some time after prices have reached stability. . . .⁹⁷

Schmidt also points out the effect of the accountant's adherence to historical cost on the measurement of profit with a fluctuating price level:

. . . We have to remember that in the case of a balance sheet at purchasing day cost price, which very often contains hidden

⁹⁵Fabricant, op. cit., p. 128.

⁹⁶Copeland, op. cit., p. 111.

⁹⁷Dean, The Accounting Review, op. cit., p. 190.

reserves, the profit and loss account itself is falsified. It shows apparent profit in periods of general increase in prices and apparent losses in periods of decreases in prices, so that the estimates of the earning value is liable to be wrong.⁹⁸

One of the best summaries of the exaggeration in profits with rising price levels caused by accounting methods was given by an accountant in the hearings before the Joint Committee on the Economic Report in December, 1948:

A consequence of this practice (ignoring fluctuations in the value of the domestic currency) is that in periods of significantly rising prices, reported profits, like other incomes, tend to show extraordinary dollar gains. At such times, costs, calculated on the book value of yesterday, fall short of the amounts needed to provide the physical replacement of inventory and plant used up in current production. Conversely, in periods of rapidly falling prices, as in the early 1930's profits expressed in dollars tend to be understated, and operating losses, not uncommon at such times, tend to be magnified.⁹⁹

Thus it is contended that "the accountant has chosen a concept of income which permits precise measurements but which yields misleading results under conditions of fluctuation and uncertainty. The economist has sought to construct a concept that would stand up under fluctuating conditions but such a concept cannot easily be applied in

⁹⁸ F. Schmidt, "The Valuation of Fixed Assets in Financial Statements," Proceedings of the International Congress on Accounting, 1929, p. 16.

⁹⁹ Testimony of George D. Bailey, Partner, Touche, Niven, Bailey and Smart, in U. S. Congress, Profits, A Report of a Subcommittee of the Joint Committee on the Economic Report on Profit Hearings, 80th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 37; parentheses, the author's.

practice."¹⁰⁰

The actual behavior of accounting profits with fluctuating price levels. --A number of studies have been made in an attempt to quantify the misstatement of profits by conventional accounting methods. Joel Dean has compared the book profits of General Electric Company, Westinghouse Electric Corporation, and Radio Corporation of America with their "real economic earnings". His method is described in these words: ". . . All assets were stated in terms of their 1935 price levels by deflating each major group of assets by means of an appropriate price index. Changes in the companies' total net assets from year-end to year-end, plus dividends, and minus new capital funds added (also stated in 1935 dollars) gave a measure of their real profits. . . ." ¹⁰¹ A comparison of the results of the total profits of the three companies is given in Table 5.

Ralph C. Jones made a similar study of nine steel companies from 1941-1947. Concerning the method used Jones has said: "Every item on every financial statement has been converted into 1935-1939 dollars by dividing it by the index number for the relevant date or period and the results have been combined into a composite picture

¹⁰⁰ Alexander, op. cit., p. 9.

¹⁰¹ The Accounting Review, op. cit., p. 194.

TABLE 5

BOOK VS. REAL ECONOMIC EARNINGS OF THREE MAJOR
MANUFACTURERS OF ELECTRICAL PRODUCTS, TOTAL
EARNINGS AVAILABLE FOR INTEREST AND
DIVIDENDS, YEARS 1935-1948^a
(THOUSANDS OF DOLLARS)

Year	Profit per Books	In Constant (1935) Dollars
1935	\$47,340	\$46,540
1936	67,605	57,468
1937	91,713	53,493
1938	46,037	52,333
1939	64,530	59,203
1940	66,508	66,508
1941	92,430	46,663
1942	81,643	28,237
1943	92,345	48,434
1944	92,992	43,364
1945	98,666	38,176
1946	60,497	(5,455) ^b
1947	173,969	(21,331)
1948	280,024	66,697
Total 1935-1948	\$1,375,292	\$580,330

^aSource: Joel Dean, The Accounting Review, April, 1951, p. 195.

^b() Indicates loss.

of the industry in terms of purchasing power."¹⁰² Among other things, Jones found that for 1946, the companies' statements showed

¹⁰²Ralph C. Jones, "Effect of Inflation on Capital and Profits: The Record of Nine Steel Companies," The Journal of Accountancy, January, 1949, p. 11.

total profits of \$200,000,000 before transfers from reserves compared to a real loss before transfers from reserves of \$88,000,000.¹⁰³ For 1947, the reported net income available to investors was \$356,000,000 compared to \$91,000,000 when converted to 1935-1939 dollars.¹⁰⁴

Turning from the firm level to corporate business as a whole, Sumner Slichter estimated that total corporate earnings were overstated from 1946 to 1948 by \$16.4 billion.¹⁰⁵ As to the reason for this overstatement Slichter said: "The principal reason probably is that accounting is a conservative and conventional art and accountants are slow to adapt their methods to new conditions and new problems. Accountants are not used to taking account of permanent changes in the price level. . . ."¹⁰⁶

Column 3 of Table 6 shows an estimate of the misstatement of corporate profits from 1929-1949. According to these figures, accounting methods have overstated profits except for the years, 1930-1932, and the year, 1938, with the largest overstatement being in 1947.¹⁰⁷

¹⁰³Ibid., p. 13.

¹⁰⁴Ibid.

¹⁰⁵U. S. Congress, Profits, op. cit., Table XVI, p. 175.

¹⁰⁶U. S. Congress, Corporate Profits, Hearings Before the Joint Committee on the Economic Report, 80th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 8.

¹⁰⁷According to Table 6, corporate profits were overstated \$20.8 billion for 1946-48 as compared with Slichter's estimate for the same years of \$16.4 billion.

TABLE 6

CORPORATE SALES, PROFIT, AND ESTIMATED MISSTATEMENT
OF PROFITS DUE TO ACCOUNTING METHODS
(MILLIONS OF DOLLARS)

Year	Sales Col. 1 ^a	Profits Before Tax Col. 2 ^b	Misstatement of Profit ^d Col. 3 ^c
1929	\$138,640	\$ 9,396	\$ 389
1930	118,294	3,185	(2,716)
1931	92,365	-776	(2,153)
1932	69,185	-2,983	(1,164)
1933	73,027	153	2,039
1934	89,553	1,656	828
1935	101,953	2,986	457
1936	119,462	5,636	968
1937	128,884	6,113	519
1938	108,551	3,053	(505)
1939	120,789	6,219	1,176
1940	135,248	9,086	728
1941	176,181	16,751	3,205
1942	202,777	20,657	2,170
1943	233,435	24,316	1,770
1944	246,737	23,027	1,275
1945	239,512	18,749	1,590
1946	270,898	22,126	6,793
1947	347,801	28,836	8,576
1948	388,744	31,933	5,418
1949	370,079	25,366	1,075
1950	431,858	38,970	. . .
1951	488,445	39,958	. . .
1952	499,436	34,815	. . .
1953	526,074	37,192	. . .
1954	508,052	32,676	. . .

^aCol. 1: 1929-1951, U. S. Department of Commerce, National Income--A Supplement to the Survey of Current Business, 1954 Ed., pp. 204 f. 1952-1954, Survey of Current Business, July, 1955.

^bCol. 2: 1929-1951, National Income--A Supplement to the Survey of Current Business, 1954 Ed., pp. 168 f. 1952-1954, Survey of Current Business, July, 1955, p. 12.

^cCol. 3: Computed from Table 14 and Col. 3, Table 20.

^dNote: () Indicates understatement.

A comparison of column one and column two of this table also brings out the greater volatility of profits as compared with sales during business fluctuations. This greater volatility means that expenses do not vary proportionately with sales since profit is the difference between sales and expenses. The rigidity of expenses arises partly from the fact that costs are based on historical data and partly from the fact that certain expenses are treated as being independent of sales and production. Thus, the fact that accountants use historical costs which do not "roll with the cycle" tends to exaggerate the volatility of profit.

The Effect of Accountants' "Misstatement" of Profits on Business Fluctuations

The effect on the individual businessman. --This misstatement of profit due to accounting methodology is said to influence businessmen in a good many ways. Buchanan says it is like looking at a thermometer: "One is inclined to feel much hotter or colder after reading the temperature than he was previously conscious of being warm or chilled. So a business man is likely to be more elated or depressed after reading the accountant's statement of net income than he was before. . . ." ¹⁰⁸ Schmidt compares the wrong way of accounting to a compass which points to magnetic north instead of geographical

¹⁰⁸ Norman S. Buchanan, The Economics of Corporate Enterprise (New York: Henry Holt and Company, 1940), p. 279.

north. "Die falsche Rechnungsweise wirkt wie ein vom geographischen zum magnetischen Pol abgelenkter Kompass, von dem die Schiffer glauben, dass er den geographischen Pol anzeigen."¹⁰⁹ In other words, the businessman tends to think in monetary terms rather than in real terms. Pigou has said that "when people have more or less money than usual, even though prices have changed in precise correspondence, the natural tendency to 'think in gold' is apt to make them imagine themselves really richer or really poorer."¹¹⁰

According to Kuznets, this mistaken notion of his profits affects a person's behavior: ". . . For what consumers or entrepreneurs think their incomes to be provides at least a partial explanation as to why they act as they do as consumers and entrepreneurs. . . ."¹¹¹ Putnam describes the effect of the overstatement of profit on the up-swing in these words:

¹⁰⁹ F. Schmidt, "Die Industriekonjunktur-ein Rechenfehler!" Zeitschrift für Betriebswirtschaft, (2) Sonderheft, 1927, p. 94. This passage is translated as follows: "The wrong way of accounting has the same effect as a compass which is diverted from the geographic to the magnetic pole and of which the skippers believe that it shows the geographic pole."

¹¹⁰ A. C. Pigou, Industrial Fluctuations (London: Macmillan and Co., Limited, 1929), p. 180.

¹¹¹ Simon Kuznets, "Changing Inventory Valuations and Their Effect on Business Savings and on National Income Produced," Studies in Income and Wealth (New York: National Bureau of Economic Research, 1937), I, 155.

The head of a firm unmindful of the danger that lurks in his profit and loss account notes with satisfaction the large 'profit' in his business. . . . Sooner or later he will be prompted by business instinct or by the tactics of competitors to do one or all of three things on the strength of phenomenal earnings, namely, pay out more in dividends,¹¹² increase the fixed investment, or carry larger inventories.

Schmidt describes the effect of the misstatement of profits on the down-swing as follows:

The exaggerated expansion of plants creates overproduction and not until the new factories are finished will the price of the products be stabilized or deflated. Then, the apparent profits disappear and the general decrease of prices during the period of depression leads to apparent losses . . . if the purchasing-day cost prices are applied to the accounting. . . .

Thus, the overstatement of profit during the prosperity phase and the understatement during the depression phase are said to cause the businessman to expand further during prosperity and contract further during depression than he would if profits were stated on an "economic basis".

The tendency of "errors of forecast" to spread throughout the economy. --So far the discussion has been in terms of the effect of the misstatement of profit on the individual businessman. In so far as errors of judgment based on this misstatement tend to cancel out--i. e.,

¹¹² George E. Putnam, "The Role of Paper Profits in Industry," Harvard Business Review, January, 1926, p. 134.

¹¹³ Proceedings of the International Congress on Accounting, op. cit., p. 17.

while some businessmen are optimistic, others are pessimistic--the economy as a whole may be unaffected. However, the tendency is for the errors to be in one direction. Pigou mentions three influences at work which tend to "generalize errors of forecast."¹¹⁴

First, among businessmen, even when engaged in different occupations, there often exists a certain measure of psychological interdependence. A change in tone in one part of the business world diffuses itself in quite unreasoning manner over other and wholly disconnected parts.¹¹⁵ This influence is intensified by businessmen's clubs and trade associations which afford an easy exchange of views and opinions.¹¹⁶ Secondly, an error of optimism on the part of one group creates a justification for some improved expectations on the part of other groups. Pigou said:

The fact that A's erroneous optimism is a ground of some small justified optimism on the part of B, C and D adds a material link to the link of sympathy which we have already seen to bind business men in different occupations together. Exactly analogous considerations hold good of errors of pessimism.¹¹⁷

Thirdly, a connection among businessmen is set up by the debtor-creditor relationship.¹¹⁸ If because of an excess of enthusiasm on the

¹¹⁴ Industrial Fluctuations, op. cit., pp. 86 ff.

¹¹⁵ Ibid., p. 86.

¹¹⁶ D. Hamberg, Business Cycles (New York: The Macmillan Company, 1951), p. 301.

¹¹⁷ Industrial Fluctuations, op. cit., p. 87.

¹¹⁸ Ibid.

part of the producers from whom a concern buys its material, it is able to get longer and larger credits, then it is more inclined to pass on the same concessions to its customers, to whom it in turn grants longer and larger credit.¹¹⁹

These three links among businessmen "act as connecting rods along which an error of optimism or pessimism, once generated, propagates itself about the business world."¹²⁰ Lavington has likened businessmen to skaters on a pond who infect one another with confidence and optimism. He has described the action of these skaters in these words:

Indeed the confidence of each skater in his own safety is likely to be reinforced . . . by the presence of numbers of his fellows. . . . The rational judgment that the greater their numbers the greater will be his risk, is likely to be submerged by the mere contagion of confidence which persuades him that the greater their numbers the more safely he may venture. . . .¹²¹

Thus, net error of forecast tend to occur more frequently than if these links were nonexistent and "large net errors may be expected to carry with them large fluctuations in the aggregate volume of industrial activity."¹²² Furthermore, errors of optimism and pessimism are not

¹¹⁹James Arthur Estey, Business Cycles (New York: Prentice-Hall, Inc., 1946), p. 208.

¹²⁰Pigou, Industrial Fluctuations, op. cit., p. 89.

¹²¹F. Lavington, The Trade Cycle (London: P. S. King and Son, Ltd., 1922), pp. 32 f.

¹²²Pigou, Industrial Fluctuations, op. cit., p. 89.

independent of each other. Pigou speaks of "mutual generation of errors"¹²³ and the tendency of "error of pessimism" to be followed by a "new wave of optimism."¹²⁴

Accounting profits and "waves of optimism and pessimism". --

Thus, if the businessman believes his profits to be larger during the upswing and smaller during the downswing than they actually are, this could lead to the chain reaction described above. As Canning says: "But if, and to the extent that business men believe what the accountant's figures seem to say, we have a pernicious state of affairs that probably to a large extent is responsible for violence of business fluctuations in modern times."¹²⁵

According to many writers, the businessman does have this tendency. According to one of them:

Here we have reflected one factor making for the stimulation of business enterprise when the secular movement of prices is upward, and the depression of business enterprise when the secular movement of prices is downward. The reason for this phenomenon is found, in part, in the tendency of business men to look to the money counters in which business is transacted as the final criterion and purpose of their activities. . . .¹²⁶

¹²³Ibid., Chapter VII.

¹²⁴Ibid., p. 94.

¹²⁵John B. Canning, "A Certain Erratic Tendency in Accountants' Income Procedure," Econometrica, I (1933), 61.

¹²⁶Solomon Fabricant, "Measures of Capital Consumption, 1919-1933," National Bureau of Economic Research Bulletin No. 60 (New York: National Bureau of Economic Research, June 30, 1936), p. 12.

Later on the same writer says:

In the complex changing situation business men cannot see far enough, or clearly enough. It is partly for this reason that they tend to hold fast to the unchanging reality of cost prices, and it may be partly for this reason that waves of optimism and pessimism tend periodically to sweep over business enterprise.¹²⁷

Consequently, the "currently employed (accounting) procedures tend to accentuate fluctuations in profits and . . . the amplitude of the oscillations in business expectations between pessimism and optimism. . . ."

."¹²⁸

Schmidt points out in the following words that although accounting techniques are logically constructed, yet all entrepreneurs alternatively report fictitious profits and fictitious losses: ". . . Dieses Grundprinzip ist die Fehlrechnung der Unternehmer, die an sich, wenn sie auch einen schweren Konstruktionsfehler enthält, doch logisch und Zwangsläufig aufgebaut ist, derart, dass in gewissen Lagen der Wirtschaft alle Unternehmer gleichzeitig Scheingewinn, in anderen gleichzeitig Scheinverlust errechnen müssen. . . ."¹²⁹

¹²⁷ Ibid., p. 13.

¹²⁸ Norman S. Buchanan, "Toward a Theory of Fluctuations in Business Profits," The American Economic Review, December, 1941, p. 753; parentheses, the author's.

¹²⁹ Schmidt, Zeitschrift für Betriebswirtschaft, op. cit., p. 94. This passage is translated as follows: This basic principle is the miscalculation of the entrepreneurs which per se, though it contains also a severe mistake in construction, is nevertheless constructed

This misstatement of profits and its simultaneous concomitant effect on businessmen's optimism and pessimism is thought to widen the gap between planned saving and planned investment on both the up-swing and downswing. In this connection Lacey says: "Briefly, I maintain that the present system of profit measurement tends to widen the excess of investment over planned saving in the boom and similarly to widen the excess of planned saving over investment in the early stages of the slump. . . ."¹³⁰

Thus the links between the misstatement of profits at the firm level by accounting methods and business fluctuations via investment decisions are said to be forged. These links are thought to be the mistaking of reported profits for "economic" profit and the consequent errors made in investment decisions. Kuznets has said: "It is perhaps not an overstatement to say that disparity between real and apparent net income constitutes an important factor in business cycles. . . ."¹³¹ Baxter¹³² has said with respect to the "historic cost error": "Its

logically, and necessarily so that under certain conditions of the economy all entrepreneurs must simultaneously count fictitious profits and under other circumstances fictitious losses.

¹³⁰K. Lacey, Profit Measurement and Price Changes (London: Sir Isaac Pitman and Sons, Ltd., 1952), p. 2.

¹³¹Kuznets, op. cit., p. 155.

¹³²W. T. Baxter, "The Accountant's Contribution to the Trade Cycle," Economica, May, 1955, p. 99.

¹³³Defined as, "the gap between accounting profit and the

alternative over- and under-statement of profits seems likely to affect the size of the cycle--in particular, through its influence on mental attitudes, on the supply of credit, and on policies of consumption and investment."

Summary of the Chapter

It has been demonstrated in this chapter that there is no single criterion of "economic profit" against which accounting profits are said to be "misstated", since, in a dynamic economy, economists themselves are not agreed on profits conceptually nor on their measurement. In a stationary economy, on the other hand, accountants and economists, in general, have a common meeting ground in Hick's idealized concept of income, and the two disciplines thus come closer to an agreement on the concept of profits and its measurement.

Since the statement has been so often reiterated, however, that accountants misstate "economic profit" even in the real world characterized by business fluctuations, a further search into the exact meaning of this statement was conducted. Of the basic accounting postulates underlying the measurement of profits, it was found that the ignoring of the fluctuations in the value of the dollar--i. e., the reliance of accounting methods on the maintenance of dollar, or nominal, capital

profits that would be found if inputs were charged at the replacement prices ruling at sales dates." Ibid.

intact rather than "real" capital--was the one most often under attack by those who claim that accountants misstate "economic profit". In other words, critics of the methods of computing accounting profit insist that the costs to be deducted from revenue before net profit is determined should be current costs instead of historical costs. In practical application, the adherents of the current cost doctrine tend to rely upon index numbers to convert the historical cost of the accountant to current costs. There is still disagreement among the advocates of current cost, however, as to whether the index number to be used should be one based on the general price level, or one based on the price level of the specific asset to be replaced.

In Chapter I it was stated that writers stressing the psychological factor point out that this factor arises from mistakes, or errors of judgment. If the misstatement of profits by accountants affects the cycle, then it must be because of action taken by individual businessmen who have made mistakes of judgment based on the misstatement of profits--i. e., they have mistaken accounting profits for "economic profits". Furthermore, it is alleged that accountants' overstatement of profits on the upswing and their understatement of them on the downswing furnish such a factor on which mistakes of judgment are made thereby causing overinvestment on the upswing and underinvestment on the downswing.

Lastly, through certain psychological links which businessmen

have with one another, this mistaken judgement at the firm level is translated into a generalized mistake for the economy. This tendency for accounting errors at the firm level to become a factor in fluctuations of general economic activity is summarized by one writer in these words: ". . . When we consider next that the fate of the national economy is largely determined by the sum total of decisions made by independent entrepreneurs standing at the head of privately owned firms, we see that an accounting 'error' committed on a microeconomic scale is easily magnified into a macroeconomic problem. . . ."¹³⁴

The specific accounting practices most frequently criticised as misstating profit with fluctuating price levels are inventory valuation techniques and depreciation methods.¹³⁵ In the next two chapters attention will be focused on these two subjects of criticism.

¹³⁴ Walter Adams, "Accounting Practices and the Business Cycle," The Journal of Business, April, 1949, p. 129.

¹³⁵ Baxter has stated that "the accounting costs that are suspect are those under the heads of depreciation and 'cost of goods sold'." Op. cit., p. 99.

CHAPTER IV

ACCOUNTING INVENTORY VALUATION AND THE ACCENTUATION IN THE FLUCTUATION OF PROFITS

The Influence of Inventories and Inventory Investment on Business Cycles

Inventory fluctuations as the main characteristic of Kitchins. --

Students of the business cycle have, until recent years, tended to neglect the role of inventories.¹ Most of the attention has been directed to the fluctuation in durable capital goods and construction, with inventories being relegated to a secondary role.²

In more recent years, however, writers on business cycles have begun to pay more attention to inventories. Keynes, for example, says: "Recent American experience has also afforded good examples of the part played by fluctuations in the stocks of finished and unfinished goods--'inventories' as it is becoming usual to call them--in causing

¹ Moses Abramovitz, Inventories and Business Cycles (New York: National Bureau of Economic Research, 1950), p. 4.

² Ibid.

the minor oscillations within the main movement of the Trade Cycle. . . ." ³ Hansen in his discussion of minor recessions that occur during the upswing of the major cycle says that while these minor recessions are sometimes associated with special situations "such as critical international developments, labor disturbances, or even special factors having to do with major industries such as the Ford shutdown in 1927," ⁴ he believes that "regularly, however, inventory movements play an important part." ⁵ He even thinks that in the minor cycle, "inventories regularly play an important role in helping to initiate the upturn. . . ." ⁶

Another writer who has given much attention to inventories, Lloyd Metzler, attributes the short cycle, or inventory cycle, to the fact "that producers are unable to adjust output immediately to changes in demand." ⁷ A distinction is also made between planned and unplanned investment in inventories. The desire on the part of the businessman to add to stocks (planned investment) stimulates the producing and

³ John Maynard Keynes, The General Theory of Employment, Interest and Money (New York: Harcourt, Brace and Company, 1935), p. 332.

⁴ Alvin H. Hansen, Fiscal Policy and Business Cycles (New York: W. W. Norton and Company, Inc., 1941), p. 17.

⁵ Ibid.

⁶ Ibid., p. 55.

⁷ Lloyd A. Metzler, "Factors Governing the Length of Inventory Cycles," The Review of Economic Statistics, February, 1947, p. 10.

purchasing of more goods.⁸ This leads to what Metzler calls the "speculative cycle." On the other hand, goods added to stock may not have been in response to a desire to invest. The quantity of goods sold during the period may not be identical with the amount that businessmen planned to sell. The difference represents unplanned investment and disinvestment in inventories. This passive adaptation of inventories to changes originating elsewhere Metzler calls the "structural cycle." The distinction between unplanned and planned investment is important because of the effect which it produces on the future action of the businessman. If there is unplanned investment, then in the future the holders of excess stocks will curtail output, or purchases, and business will be depressed. Similarly, if stocks are reduced below the planned investment, then in the subsequent period, the results will be expansionary.

Unfortunately, inventory statistics only tell us what has happened but nothing concerning the amount of planned and unplanned investment in inventories.⁹ Metzler believes that "inventory movements largely explain the cyclical appearance of the short upswings and downswings of economic activity that characterized the interwar economic

⁸ Abramovitz, op. cit., p. 331.

⁹ Ibid., p. 333.

history of the United States."¹⁰ However, it is his view "that most of the short cycles of the interwar period were structural cycles in which inventory fluctuations played a passive role."¹¹

Schumpeter acknowledges that the minor cycle may be explained by Metzler's theory: ". . . Among shortrun fluctuations there is the one that used to be called the 40-month cycle (I usually refer to it as the Kitchin cycle); these fluctuations and perhaps still shorter ones may possibly be explained by some such schema as Metzler's inventory cycle. . . ."¹²

What fluctuations have been characterized as inventory cycles? Hamberg says of the two minor cycles from 1921 to 1924 and from 1924 to 1927 (measured from trough to trough): "¹³ The evidence is indisputable that these two minor cycles, whatever may have been the nature of their initiating forces, were primarily inventory cycles."¹⁴ Of the

¹⁰ Lloyd A. Metzler, "Comments" on remarks made by Abramovitz, Conference on Business Cycles (New York: National Bureau of Economic Research, 1951), p. 326.

¹¹ Ibid.

¹² Joseph A. Schumpeter, "Historical Approach to the Analysis of Business Cycles," Conference on Business Cycles (New York: National Bureau of Economic Research, 1951), p. 154.

¹³ See Table 1.

¹⁴ D. Hamberg, Business Cycles (New York: The Macmillan Company, 1951), p. 311.

rapid downturn in 1937-38, Achinstein says: "A major factor, undoubtedly, was the heavy inventories accumulated since the last quarter of 1936."¹⁵ Likewise, "the downswing of 1949 is commonly referred to as an inventory recession. The reason for this is simple: the decline in inventory investment was actually greater than the decline in gross national product. . . ."¹⁶ Roose characterized the year 1951 as a period of "inventory crisis": ". . . The relative weakness of consumption in 1951 led to an inventory crisis particularly in durable consumer goods, which nevertheless failed to reduce the gross national product because of the rising level of national security expenditures. . . ."¹⁷ Lastly, the recession of 1953-54 has been partially characterized as an inventory recession: ". . . The heavy disinvestment in inventories and declines in national security expenditures were offset, but only in part, by increases in construction, consumption, and government transfer payments, and by tax reduction. As a consequence, the

¹⁵ Asher Achinstein, Introduction to Business Cycles (New York: Thomas Y. Crowell Company, 1950), p. 311.

¹⁶ Rendigs Fels, "Theoretical Significance of the 1949 Recession," Papers and Proceedings of the Sixty-seventh Annual Meeting of the American Economic Association in The American Economic Review, May, 1955, p. 359.

¹⁷ Kenneth D. Roose, "Business Fluctuations in the United States Since 1951: Selected Developments," Papers and Proceedings of the Sixty-seventh Annual Meeting of The American Economic Association in The American Economic Review, May, 1955, p. 370.

1953-54 recession was mild. . . ."¹⁸

The cyclical behavior of inventories and inventory investment.--

Abramovitz has attributed much of the neglect of inventories in business cycle discussion to the lack of knowledge of the size of inventories and the rate at which they are built up and liquidated.¹⁹ In the five cycles identified by the National Bureau of Economic Research from 1919-1938, inventory investment accounted for thirty-two per cent of the average change in the gross national product.²⁰ In these same five cycles, 23 per cent of the average expansion of the gross national product and 47 per cent of the average contraction were due to changes in inventory.²¹ By comparison, "the average share of consumer goods in full cycles was 15 per cent; of producer durable goods, 19 per cent; and of construction, 8 per cent."²²

Table 7 also gives an impression of changes in inventories--i.e., variations in inventory investment--from 1929-1954. From this

¹⁸ Ibid., p. 371.

¹⁹ As used by Abramovitz "inventories" are the stock of goods held by business at a given time while "inventory investment" is the net volume of goods added to or removed from stocks during a given period, op. cit., p. 4 n.

²⁰ Based on constant prices, Moses Abramovitz, "Influence of Inventory Investment on Business Cycles," Conference on Business Cycles (New York: National Bureau of Economic Research, 1951), p. 319.

²¹ Ibid.

²² Ibid.

TABLE 7

NET CHANGE IN NON-FARM BUSINESS INVENTORIES
1929-1954^a
(MILLIONS OF DOLLARS)^b

Year	Total ^c	Manufacturing ^c	Wholesale Trade ^c
1929	1,836	911	31
1930	-83	747	54
1931	-1,608	-594	-413
1932	-2,590	-1,155	-175
1933	-1,370	-578	-89
1934	195	136	66
1935	376	213	i
1936	2,066	1,095	286
1937	1,726	1,344	210
1938	-1,046	-631	-198
1939	316	214	77
1940	1,902	1,218	183
1941	4,049	2,567	221
1942	652	1,553	-554
1943	-577	244	-234
1944	-575	-814	202
1945	-595	-1,556	560
1946	6,350	2,901	815
1947	1,298	450	-21
1948	3,026	1,274	566
1949	-1,862	-1,494	4
1950	6,428	2,265	1,356
1951	8,951	7,400	308
1952	2,105	1,682	223
1953	1,855	1,392	194
1954	-3,245	-2,870	-21

^aSource: 1929-1951, U. S. Department of Commerce, Office of Business Economics, National Income--A Supplement to the Survey of Current Business, 1954 ed., pp. 210 f. 1952-1954, Survey of Current Business, July, 1955, p. 20.

^bChange in physical stock valued at current prices.

^cCorporate and non-corporate.

TABLE 7 --Continued

Retail Trade ^c	All Other ^c	Total Corporate	Total Non-corporate
250	644	1,558	278
-457	-427	191	-274
-316	-285	-1,149	-459
-695	-565	-1,816	-774
-488	-215	-871	-499
-48	41	182	13
297	-135	217	159
668	17	1,589	477
53	119	1,520	206
-164	-53	-920	-126
97	-72	251	65
482	19	1,586	316
851	410	3,318	731
-411	64	470	182
-462	-125	-458	-119
-58	95	-1,070	495
272	129	-1,027	432
2,048	586	5,967	383
603	266	1,240	58
1,229	-43	2,055	971
-147	-225	-1,635	-227
2,404	403	4,924	1,504
336	907	8,080	871
143	57	1,850	255
200	69	1,519	336
-319	-35	-2,995	-250

table can be seen the volatility of total inventory investment, which varied from \$8,951 million in 1951 to minus \$3,245 million in 1954. Gordon has described inventory investment as the "most volatile item of all in private investment."²³

Abramovitz found that manufacturers' aggregate stocks vary positively with the business cycle but with a lag of more than six months but less than twelve months.²⁴ In other words, when output passes its peak, inventory accumulation does not immediately cease or become negative; only the rate of accumulation decreases but accumulation goes on. The result is a lag in the total volume of inventories behind the terms in aggregate output. Abramovitz attributes this to two factors: "inability to control promptly the rate at which purchased goods are received, and in case of staple goods, reluctance to curtail operations promptly and sufficiently."²⁵

Inventory investment, on the other hand, "appears typically to reach its peaks and troughs at about the same time as gross national product or business at large, as indicated by National Bureau

²³ Robert Aaron Gordon, Business Fluctuations (New York: Harper and Brothers, Publishers, 1952), p. 41.

²⁴ Abramovitz, Inventories and Business Cycles, op. cit., p. 107.

²⁵ Ibid., p. 125.

reference dates"²⁶ and "typically lags behind the rate of change in output."²⁷ Thus, "increases in inventory investment regularly act to augment the forces of expansion from the very beginning of the upward swing of business until approximately its very end. And declines in inventory investment augment the forces of contraction in the same way."²⁸

Abramovitz attributes the lag of inventory investment behind the rate of change in output to three factors.²⁹ First, imperfect forecasting; when a cyclical change in demand occurs, businessmen are caught unawares. Second, when orders and inputs are reduced, there are obstacles that prevent inventories from feeling the effects of the reduction at once; e.g., orders have been placed and may be filled. Third, all producers do not wish to reduce stocks immediately and may accept accretions in inventory in the face of falling demand. Nurkse adds two others: The operation of an inflexible price system which causes business inventories to bear the brunt of changes in

²⁶ Abramovitz, Conference on Business Cycles, op. cit., p. 320.

²⁷ Ibid., p. 323.

²⁸ Abramovitz, Inventories and Business Cycles, op. cit., p. 346.

²⁹ Abramovitz, Conference on Business Cycles, op. cit., p. 324.

demand,³⁰ and "demand reaction" which tends to defeat any change in the desire to change the amount of inventories.³¹ Nurkse adds that so long as these factors are operative throughout the economy, "the unplanned and undesired type of inventory change will be a characteristic feature of business fluctuations."³² Furthermore, "it is the behavior of unplanned inventory changes that bring about the cyclical conformity of the realized net flow of inventory investment."³³

Abramovitz also found evidence that the share of inventory investment in the cycle varied inversely with the duration of the expansion or contraction.³⁴ He says:

If we omit two short recessions in the mid-twenties, when annual gross national product did not decline (though inventory investment did), and classify the remaining phases of expansion and contraction by duration, the average share of inventory investment in the cyclical changes of GNP was 60 per cent for phases of 9-12 months; 36 per cent for phases of 18-27 months; and 19 per cent for phases of 45-50 months. If we treat the period 1921-29 as a single long expansion, only 7 per cent of the increase in GNP between the beginning and end of the period took the form of an increase in the level of inventory accumulation.³⁵

³⁰Ragnar Nurkse, "The Cyclical Pattern of Inventory Investment," The Quarterly Journal of Economics, August, 1952, p. 398.

³¹Ibid., p. 397.

³²Ibid., p. 398.

³³Ibid., p. 401.

³⁴Abramovitz, Conference on Business Cycles, op. cit., p. 319.

³⁵Ibid., pp. 319 f.

Abramovitz states that his analysis shows:

. . . that changes in inventory investment are significant in short expansions and contractions. But the longer the phase, the smaller the contribution of inventory investment to the further advance or decline of business. Conversely, the longer the phase, the more it must depend upon consumers' expenditures or business investment in plant and durable equipment for its motive force. In this significant but limited sense, it seem appropriate to think of short cycles as inventory cycles while longer movements are identified with other categories of demand. . . .³⁶

Thus he agrees with Hansen's statement³⁷ that "inventory movements play an important role in the minor cycle."³⁸

Does Abramovitz's study throw any light on the issue as posed by Hansen that inventory investment can initiate the minor cycle versus the view of Metzler that inventory investment is mainly passive and unplanned? To state that the minor cycle is an "inventory cycle" is not to state that inventories are causative. In the words of Abramovitz:

This, however, is not to say that minor recessions and revivals are typically initiated by changes in inventory accumulation. The hypothesis advanced above to explain the importance of inventory investment in short cycles is consistent with the view that minor downturns and upturns are typically precipitated by changes in other categories of expenditure. . . .³⁹

³⁶Abramovitz, Inventories and Business Cycles, op. cit., p. 493.

³⁷See statement of Hansen, supra.

³⁸Abramovitz, Inventories and Business Cycles, op. cit., p. 497.

³⁹Abramovitz, Conference on Business Cycles, op. cit., p. 323.

Abramovitz acknowledges that Metzler's emphasis on the passive role played by inventories when businessmen attempt to bring them into line with sales is also reasonable by saying: "Lloyd Metzler has described another process the outlines of which are plausible."⁴⁰

Thus, the issue as to whether shorter declines of business are initiated by inventory investment "cannot be brought to a decisive test"⁴¹ with the evidence now available. However, Abramovitz leaves the door open by saying: "With more adequate data, these qualitative conclusions may be given more precision, and the moot question settled whether inventory investment regularly operates to initiate revivals and recessions at large."⁴² In another place Abramovitz states:

When reliable monthly or quarterly data become available for peacetime cycles, they may yet reveal the lead that Hansen's theory seems to demand. The way still seems open, therefore, for the view that minor cycles are, in fact, precipitated by inventory fluctuations. But until we have further evidence, we must suspend judgment.⁴³

Inventories as a stabilizing influence. --Before leaving the

⁴⁰ Abramovitz, Inventories and Business Cycles, op. cit., p. 498.

⁴¹ Ibid., p. 497.

⁴² Ibid., p. 474.

⁴³ Abramovitz, Conference on Business Cycles, op. cit., p. 323.

subject of the influence of inventories on business fluctuations, attention should be called to the fact that inventories may sometimes act as "shock absorbers" in the economy. Abramovitz recognizes this influence:

Were it not for the lag in inventories, an upturn or downturn in output would be aggravated by a larger concomitant change in inventory investment than in fact takes place. The speed of expansion and contraction is, therefore, reduced by the lag of stocks. When the rate of output growth begins to fall, this mere retardation in growth would tend to be transformed into an actual decline if inventory accumulation fell simultaneously. The continued rise of inventory investment, however, tends to sustain the expansion after its pace has begun to slacken. And the same with contractions. Thus, the delayed reaction of inventory investment tends to retard the pace and increase the duration of business cycles.⁴⁴

On balance, economists seem to believe that inventories are destabilizing. Hamberg says: "Now the general concensus on the role of inventories in business cycles is that on the whole they are destabilizing, even when cognizance is taken of their stabilizing function as shock absorbers."⁴⁵

Hamberg believes that there is a tendency for inventory recessions to become milder and gives four reasons for this "secular

⁴⁴ Abramovitz, Conference on Business Cycles, op. cit., p. 325.

⁴⁵ Daniel Hamberg, "Cyclical Experience in the Postwar Period-Discussion," Papers and Proceedings of the Sixty-seventh Annual Meeting of the American Economic Association, in The American Economic Review, May, 1955, p. 383.

growth in mildness", both in amplitude and duration;⁴⁶

(1) The movement toward industrial integration--both vertical and horizontal.

(2) Improvements in transportation, communications, production methods, and better accounting control over inventory, e.g., the use of IBM equipment.

(3) Recent studies have shown that optimal inventory policy dictates that inventories should vary less than proportionately to sales. There is evidence that business is beginning to do so.⁴⁷

(4) The use of LIFO, thereby reducing the tendency to speculate in inventories.

Inventory Valuation and Profit Measurement

In theorizing about cyclical investment in inventories, economists, such as Abramovitz and Metzler, have been concerned primarily with changes in real investment--i.e., changes in physical stocks. The principal concern in the remainder of this chapter is with changes in the valuation of a fixed physical volume of inventory and with a combination of changes in physical stocks and changes in valuation. Particular attention is to be given to the effect of various methods of

⁴⁶Ibid., pp. 383 f.

⁴⁷A Study by Walter W. Jacobs and Sylvia F. Broida, Survey of Current Business, April, 1949, bears out this tendency from 1919 to 1948 with respect to retailers' stocks (Chart 4, p. 19) and wholesalers' stocks, p. 24. For both categories there has been a downward trend in the stock-sales ratios. Manufacturers' stock-sales ratio has remained practically constant (Chart 1, p. 15) for the period studied (1925-1949).

inventory valuation on profit measurement.

The mechanics whereby inventory valuation enters into profit measurement. -- The valuation placed on the ending inventory is important since it enters into the determination of profit for the period. The cost of goods sold, and hence, profit, is affected by the change in the valuation between the beginning and ending inventory. The standard formula, omitting minor details,⁴⁸ is: Beginning inventory plus purchases less ending inventory equals cost of goods sold.

In fact, the chief reason for needing the inventory figure periodically is the determination of profit for the period. In the words of the Committee on Accounting Procedure of the American Institute of Accountants:

. . . In accounting for the goods in inventory at any point of time the major objective is the matching of appropriate costs against revenues in order that there may be a proper determination of the realized income. Thus, the inventory at any given date is in effect a residual amount remaining after the matching of absorbed costs with concurrent revenues. . . .⁴⁹

If prices remained the same throughout the accounting period, the pricing of the items in the ending inventory would present no special problem. Since the prices of many of the individual items

⁴⁸In computing cost of goods sold, freight-in enters as a positive item while purchase returns, purchase allowances, and purchase discounts enter as negative items.

⁴⁹American Institute of Accountants, Committee on Accounting Procedure, "Inventory Pricing," Accounting Research Bulletin No. 29, July, 1947, p. 236.

carried in the inventory typically fluctuate, however, some assumption must be made as to the price to be assigned to those items remaining unsold at the end of the period. Many "acceptable" methods have been devised for handling this problem. The different methods give a different valuation for the ending inventory if prices are changing. As Butters and Niland say: "In times of fluctuating prices the rule adopted is of critical importance, since different procedures in common use yield widely diverse valuations for the same physical inventories."⁵⁰ These different valuations, in turn, affect the profit for the period by way of the cost of goods sold.

The effect on profits of various accounting methods of inventory valuation. --Other things being equal, the larger the value placed on the ending inventory, the smaller the cost of goods sold and thus the greater the profit for the period. This is inherent in the basic formula: Beginning inventory plus purchases less ending inventory equals cost of goods sold. Inventories are commonly valued at the "lower of cost or market,"⁵¹ market referring, in general, to the replacement cost of the inventory on the balance sheet date.⁵² This

50 J. Keith Butters and Powell Niland, Effects of Taxation-Inventory Accounting and Policies (Cambridge: The Riverside Press, 1949), p. 2.

51 A further discussion of the methods actually used will be given in the latter part of the chapter.

52 Samuel J. Broad and several other experts testifying before the S. E. C. in the McKesson-Robbins hearing indicated that

traditional rule has been defended primarily on the basis of conservatism. If the replacement cost is lower than historical cost, then the inventory is valued at replacement cost; if historical cost is lower than replacement cost, then the inventory is valued at cost.

Many accountants object to the lower of "cost or market" and prefer to stick strictly to cost. Paton in advocating cost as the most logical basis for inventory valuation says:

The cost approach to inventory valuation is on the whole the most reasonable and satisfactory. Adoption of this basis is equivalent to an interpretation of the inventory as a pool of costs applicable to future revenues, and hence to be excluded from current charges to sales. Valuation at cost is the complement of the rule that earnings must be measured strictly in terms of the volume of sales; the use of any other basis than cost, in other words, results in the recognition of unrealized gains or losses. This point has especial force throughout the trading field, where selling is the dominant activity and natural focus of income determination.⁵³

When goods are purchased at varying prices during the accounting period, some method of estimating cost must be used in order to apply either the cost, or the lower of cost or market procedure. Three possibilities suggest themselves: The ending inventory can be priced at the latest invoice prices at which the goods were purchased, i. e., first-in, first-out (FIFO); at the prices

replacement cost is the usual meaning attached to the term "market" in inventory valuation. W. A. Paton, ed., Accountants' Handbook (3rd ed.; New York: The Ronald Press Company, 1946), p. 561.

⁵³W. A. Paton, Advanced Accounting (New York: The Macmillan Company, 1947), p. 138.

prevailing in the beginning inventory, with any additions to inventory during the year priced on the basis of the earliest purchases during the period, last-in, first-out (LIFO); or at some sort of average price prevailing during the period.

Let us assume that the first-in, first-out procedure is used and that the physical stock of goods is the same at the beginning and at the end of the accounting period, i.e., the inventory investment during the period is zero. If prices rise during the period, then the ending inventory will be valued at the cost of the higher prices prevailing at the end of the period, and will thus be larger than if some other alternative procedure were used. This will give a lower cost of goods sold and, therefore, a larger reported profit than with other methods. This may be seen by consulting Table 8 and comparing the cost of goods sold (inventory investment zero) during the first two periods under Fifo and Lifo. With rising prices, the cost of goods sold for the first period under Fifo is \$26,450 and under Lifo \$27,050; for the second period, \$41,600 under Fifo and, \$42,600 under Lifo. Thus with rising prices and inventory investment equal to zero, more profit would be reported using Fifo than using Lifo.

If prices decline during the period, then under Fifo the ending inventory will be priced at the lower prices prevailing at the end of the period causing the valuation of the ending inventory to be smaller, the cost of goods sold larger, and the reported profit smaller, than if

TABLE 8

BEHAVIOR OF COST OF GOODS SOLD WITH FLUCTUATING PRICES UNDER LIFO AND FIFO*

	Inventory Investment Zero			
	FIFO		LIFO	
	Units	Dollars	Units	Dollars
<u>First Period-Prices Rising:</u>				
Beginning inventory . . .	1,000	4,000	1,000	4,000
Purchases	<u>6,000</u>	<u>27,050</u>	<u>6,000</u>	<u>27,050</u>
Total	7,000	31,050	7,000	31,050
Less ending inventory . .	<u>1,000</u>	<u>4,600</u>	<u>1,000</u>	<u>4,000</u>
Goods sold	6,000	26,450	6,000	27,050
Unit Cost of Goods Sold . . . . .	. . .	4.408	. . .	4.508
<u>Second Period-Prices Rising:</u>				
Beginning inventory . . .	1,000	4,600	1,000	4,000
Purchases	<u>8,000</u>	<u>42,600</u>	<u>8,000</u>	<u>42,600</u>
Total	9,000	47,200	9,000	46,600
Less ending inventory . .	<u>1,000</u>	<u>5,600</u>	<u>1,000</u>	<u>4,000</u>
Goods sold	8,000	41,600	8,000	42,000
Unit Cost of Goods Sold . . . . .	. . .	5.200	. . .	5.325
<u>Third Period-Prices Falling:</u>				
Beginning inventory . . .	1,000	5,600	1,000	4,000
Purchases	<u>6,000</u>	<u>33,100</u>	<u>6,000</u>	<u>33,100</u>
Total	7,000	38,700	7,000	37,100
Less ending inventory . .	<u>1,000</u>	<u>5,400</u>	<u>1,000</u>	<u>4,000</u>
Goods sold	6,000	33,300	6,000	33,100
Unit Cost of Goods Sold . . . . .	. . .	5.550	. . .	5.516
<u>Fourth Period-Prices Falling:</u>				
Beginning inventory . . .	1,000	5,400	1,000	4,000
Purchases	<u>4,000</u>	<u>20,250</u>	<u>4,000</u>	<u>20,250</u>
Total	5,000	25,650	5,000	24,250
Less ending inventory . .	<u>1,000</u>	<u>4,550</u>	<u>1,000</u>	<u>4,000</u>
Goods sold	4,000	21,100	4,000	20,250
Unit Cost of Goods Sold . . . . .	. . .	5.275	. . .	5.063

*Note: The detailed calculations on which this table is based are given in the appendix to Chapter IV.

TABLE 8 --Continued

Inventory Investment Increasing	FIFO		LIFO	
	Units	Dollars	Units	Dollars
<u>First Period-Prices Rising:</u>				
Beginning inventory . . .	1,000	4,000	1,000	4,000
Purchases	6,500	29,300	6,500	29,300
Total	7,500	33,300	7,500	33,300
Less ending inventory . . .	1,200	5,520	1,200	4,850
Goods sold	6,300	27,780	6,300	28,450
Unit Cost of Goods Sold . . .	. . .	4.410	. . .	4.516
<u>Second Period-Prices Rising:</u>				
Beginning inventories . . .	1,200	5,520	1,200	4,850
Purchases	9,000	48,200	9,000	48,200
Total	10,200	53,720	10,200	53,050
Less ending inventory . . .	1,600	8,960	1,600	6,550
Goods sold	8,600	44,760	8,600	46,500
Unit Cost of Goods Sold . . .	. . .	5.204	. . .	5.418
<u>Inventory Investment Decreasing</u>				
<u>Third Period-Prices Falling:</u>				
Beginning inventory . . .	1,600	8,960	1,600	6,550
Purchases	5,000	27,620	5,000	27,620
Total	6,600	36,580	6,600	34,170
Less ending inventory . . .	1,200	6,520	1,200	4,850
Goods sold	5,400	30,060	5,400	29,320
Unit Cost of Goods Sold . . .	. . .	5.567	. . .	5.429
<u>Fourth Period-Prices Falling:</u>				
Beginning inventory . . .	1,200	6,520	1,200	4,850
Purchases	3,500	17,690	3,500	17,690
Total	4,700	24,210	4,700	22,540
Less ending inventory . . .	1,100	5,050	1,100	4,425
Goods sold	3,600	19,160	3,600	18,115
Unit Cost of Goods Sold . . .	. . .	5.322	. . .	5.032

alternative procedures were used. This is illustrated in Table 8 where, with inventory investment equal to zero, and prices falling, cost of goods sold at the end of the third period is \$33,300 under Fifo and \$33,100 under Lifo; at the end of the fourth period, the corresponding figures are \$21,100 and \$20,250.

If physical inventories remain constant, reported profit will be smaller under Lifo than under alternative procedures when prices rise and larger when prices fall. Lifo thus tends to iron out the fluctuations in reported profit over the cycle. If prices eventually return to their former level after a rise, the average profit for a series of years will be the same under either Fifo or Lifo. The use of an average cost procedure gives results in between Fifo and Lifo.

Thus, even though the physical inventory remains constant, if prices rise and if Fifo is used, reported profit will be larger than if prices remained constant even though no more goods are actually sold during the period. This is due to the higher priced goods remaining in the ending inventory, causing the cost of goods sold to be less and the profit to be more than would have been the case if prices had remained constant. This extra profit has been labelled "inventory profits" or "paper profits." One writer has even referred to them as "Fool's Profits."⁵⁴ Butters and Niland define "paper profits" or

⁵⁴ Arundel Cotter, Fool's Profits (New York: Barron's Publishing Company, Inc., 1940).

"inventory profits" as: "Profits measured by the increase in value placed on a constant volume of physical inventories. . . ."⁵⁵ These authors point out that the term "inventory profits" has been used by other writers to label at least two other different concepts,⁵⁶ but add: "Despite these difficulties we have decided to accept the common use of the phrase, inventory profits, to designate the increase in value placed on a constant physical inventory on account of the acquisition of higher cost inventory units. . . ."⁵⁷

When prices are falling the valuing of the same physical inventory using Fifo will give rise to "inventory losses." As long as prices continue to fall, the constant inventory will be valued at lower and lower figures, with cost of goods sold being charged with the higher goods bought earlier, the result is to produce the opposite of inventory profits, i. e., inventory losses. If Lifo is used, as long as the physical inventory remains the same, the ending inventory will be reported at the same figure. An illustration of these phenomena is given in Table 8 where the physical inventory remains at 1,000 units throughout the four periods. Under Fifo, the five inventories in dollars are: \$4,000, \$4,600, \$5,600, \$5,400, and \$4,550; with the use of Lifo, each of the

⁵⁵Butters and Niland, op. cit., pp. 2 f.

⁵⁶Ibid., pp. 141 f.

⁵⁷Ibid., pp. 3 n. 1.

five inventories would have been \$4,000

The valuing of ending inventory at cost or market, with cost determined on a Fifo basis may aggravate the "error" still further at the start of the downgrade.⁵⁸ This is so since the ending inventory will be valued at market so that the usual "error" is present, and the cost of goods sold is loaded with a bit of next year's error.⁵⁹ "Profit under this double assault may fall abruptly."⁶⁰ In subsequent years both the beginning and ending inventory are valued at market so the double "error" tends to disappear.

All the foregoing remarks have been predicated on the assumption that the volume of inventories remain constant, i. e., inventory investment equals zero. What is the case over the cycle when, as Abramovitz has shown, there is a concomitant increase in inventory investment during the upswing and a decrease during the downswing? From Table 8 it can be seen that in this model the tendency for inventory investment to increase during the upswing and to decrease during the downswing accentuates the fluctuation in the cost of goods sold as between Fifo and Lifo.⁶¹

⁵⁸ W. T. Baxter, "The Accountant's Contribution to the Trade Cycle," Economica, May, 1955, p. 110.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ The basic computations for this table are given in the appendix to this chapter.

With rising prices, the difference between the unit costs of Lifo and Fifo is greater with rising stocks than with constant stocks.⁶² Likewise, with falling prices the difference between the unit costs is greater with falling stocks than with constant stocks. Therefore, other things being equal, the difference between the profit reported under Fifo and that reported under Lifo will be greater if stocks are rising on the upswing and falling on the downswing than if inventory investment remained at zero throughout the cycle. One writer has dramatically stated this proposition as follows: "To put it figuratively, the investment in inventories has been tied by accounting rules to the pendulum of prices, so that the unit value of that investment increases as prices rise and contracts again as prices fall. . . ."⁶³ In interpreting these results, it must be kept in mind that this model assumes that sales, inventory investment, and prices are all moving with the cycle--which would be the typical situation; also that prices never reach their former level and that inventories are not liquidated down to their former level.

In discussing the effect on profit of different methods of inventory valuations there are two special methods that are important enough to consider. With the retail inventory method, used by many

⁶² Remarks made in this paragraph are with reference to Table 8.

⁶³ Henry B. Arthur, "Something Business Can Do About Depressions," The Journal of Accountancy, January, 1939, p. 9.

department stores, the inventory is taken at retail and reduced to approximate cost by applying the average percentage of markup during the year and subtracting the resulting figure from the inventory at retail. Under the conventional retail method, the procedure used causes the inventory to approach the cost or market valuation. This is accomplished by ignoring the markdowns in the computation of the percentage. If it is desired that the method approximate the Lifo procedure, then both markups and markdowns are included in computing the percentage. Hence the foregoing remarks on the effect of inventory valuation on profit apply to the retail method depending on the variation of the procedure which is used.

The "base stock" or "normal stock" method is a precursor of the Lifo method. A fixed amount of inventory is designated as the minimum amount needed for the operations of the firm. This "normal stock" once chosen is not changed frequently. Usually the price on this stock "is as low or below any level of costs which has been experienced by the industry to date."⁶⁴ Units issued are priced at the most recent cost. Cotter summarizes the rationale behind the base stock method as follows: "Normal stock is based on the claim that the only real costs are replacement costs, and that a supply of raw material of sufficient volume to maintain operations during the average turnover

⁶⁴ Accountant's Handbook, op. cit., p. 571.

period is essential, and must be maintained.⁶⁵ If the inventories are deficient, i. e., below the normal stock, the deficiency is valued at current cost and deducted from the normal stock for statement purposes. Inventories in excess of the normal stock are priced at the most recent cost and added to normal stock.⁶⁶

Thus both Lifo and base stock tend to price the goods at current costs. However, under Lifo there is no fixed "reservoir inventory" and hence no "excess" or "deficiency" to be added to, or subtracted from, normal stocks at current costs. The remarks made relative to the effect on profit fluctuations with Lifo are, in general, applicable to the base stock method.

The criteria for inventory valuation in the measurement of profit. --What criteria have been used for deciding which of the various inventory valuations methods to use? Four criteria have been used,⁶⁷ namely: (1) the flow-of-goods criterion, (2) the relationship which cost and selling price bear to each other, (3) the disposable cash criterion, and (4) the current cost criterion.

The flow-of-goods criterion has traditionally influenced the

⁶⁵Cotter, op. cit., p. 44.

⁶⁶H. A. Finney and Herbert E. Miller, Principles of Accounting-Intermediate (New York: Prentice-Hall, Inc., 1951), p. 372.

⁶⁷Butters and Niland, op. cit., pp. 11 f.

thinking of accountants. Accountants who argue for this criterion put great emphasis on the notion that costs "attach" to the goods as they pass through the concern. Much is made of the good business practice of using or selling the oldest goods first. Paton and Littleton, for example, state: "In the development of a policy or procedure designed to divide the stream of production costs into inventory on the one hand and cost of sales on the other, a basic requirement is the adoption of a clear conception of the manner in which the component elements move through the enterprise. . . ."⁶⁸

The first-in, first-out method has been defended as being in harmony with this concept. As an example consider this statement: "A paper mill, for example, using pulp wood in manufacture consumes the oldest wood first so that it will not rot away. The first-in, first-out rule seems to be in line with the physical conditions of that industry. . . ."⁶⁹

It should be added, however, that the penchant of accountants for historical costs has also influenced accountants in their preference for Fifo and that the flow of goods criterion is no longer emphasized.

⁶⁸ W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards (Chicago: The American Accounting Association, 1940), p. 78.

⁶⁹ Homer N. Sweet, "The Case for a 'Cost or Market' Basis," N. A. C. A. Bulletin, December 1, 1937, pp. 402 f.

Carman G. Blough, Director of Research of the American Institute of Accountants, has stated: "In considering the relative merits of each of these assumptions, it is essential to recognize that, despite the implications of some of the terminology used, the matter of the flow of goods is of relatively little significance. . . ."⁷⁰

Regardless of the order in which goods are sold, or used physically in manufacture, first-in, first-out can be defended on the basis of a flow of cost apart from the flow of goods. Paton and Littleton have stated: "First-in-first-out, finally, is simple and clear cut in application and provides for the measurement of both inventory and cost of sales definitely in terms of recorded costs."⁷¹

The American Institute of Accountants sanctions the second criterion. Methods are favored which

recognize the variations which exist in the relationships of costs to sales prices under different economic conditions. Thus, where sales prices are promptly influenced by changes in reproductive costs, an assumption of the 'last-in first-out' flow of cost factors may be the more appropriate. Where no such cost-price relationship exists, the 'first-in first-out' or an average method may be more properly utilized. . . .⁷²

⁷⁰Carman G. Blough, "Changing Accounting and Economic Concepts Affect Methods of Inventory Pricing," The Journal of Accountancy, September, 1948, p. 205.

⁷¹Paton and Littleton, op. cit., p. 78.

⁷²Accounting Research Bulletin No. 29, op. cit., pp. 237 f.

Blough also takes this line of argument:

Lifo and base-stock, on the other hand, might be said to assume that there is a close correlation between current sales prices and current purchase or production costs; that while the specific goods delivered may come from stock on hand, the costs of current purchases or production are incurred to cover current sales. This line of reasoning might be appropriate--for instance, where a company bases its prices on current costs.⁷³

This line of reasoning is also partly responsible for the "lower of cost or market" procedure. The assumption seems to be that, if the cost or purchase price has fallen, then the selling price of the product will be reduced. Therefore, in valuing the ending inventory it should be valued at market if prices have fallen.

The third criterion, the disposable cash criterion, is the one stressed most strongly by management and writers on management. According to this viewpoint, any method of inventory valuation that gives a profit that is non-expendable should be shunned. This is well illustrated by a statement made by the President of Swift and Company: "What we need and are seeking most of all is cash profits, profits that can be paid out in dividends or reinvested in the business as occasion requires."⁷⁴ George E. Putnam also said: ". . . What the business community obviously needs is a new definition of profits and an accounting

⁷³ Blough, op. cit., p. 206.

⁷⁴ Swift and Company, 50th Anniversary Yearbook, 1935, p. 4.

technique which will keep fictitious and unexpendable gains out of the profits statement. . . ." ⁷⁵

Many advocates of the disposable cash criterion emphasize that a certain amount of inventories is of the nature of a fixed asset since a certain amount of stock must be kept on hand at all times.

F. Sewell Bray has advocated showing "standard inventories" as fixed assets. Mr. Bray has written as follows:

. . . In Four Essays I took the view that 'in so far as the major portion of the inventory of an enterprise does constitute a fixed asset necessary to the continuation of effective operation. . . it should be classified as such in the balance sheet' and later I added the comment that 'the essence of the inventory problem resides in the fundamental distinction between fixed and speculative holders'. Accordingly, at that time, I put standard inventories with the fixed assets and speculative inventories with the short-term asset claims. . . . ⁷⁶

The proponents of the disposable cash criterion recognize that the composition of the stock of merchandise is constantly changing but still insist that it represents a fixed tangible investment. This viewpoint has been propounded as follows: "Thus, the inventory profits and losses arise from and consist of changing dollar valuation figures applied to a physical inventory which, though its actual composition

⁷⁵George E. Putnam, "What Shall We Do About Depressions?" The Journal of Business, April, 1938, p. 145.

⁷⁶F. Sewell Bray, "Accounting Dynamics III," Accounting Research, July, 1955, pp. 271 f.

changes, represents a continuing fixed tangible investment. . . .⁷⁷

The holders of the disposable cash concept of profits insist that under Fifo part of the reported profit represents only the increased cost of carrying inventories and cannot be realized if physical stocks are to be maintained without liquidating other assets or increasing the indebtedness of the company.⁷⁸ Thus, ". . . The inventories are analogous to the water in the pipes of the economic system and as such are always present as a part of the capital stock of the community. . . ."⁷⁹ It is clear that business as a whole does not move out from under their inventories when prices are high and restock when prices are low. As Arthur says: "The typical business cycle shows the smallest inventories during the early recovery phase (when they are cheap) then rising inventories as business improves, and peak inventories at some time during the period of general price collapse."⁸⁰ This statement has been confirmed, in general, by Abramovitz's study.⁸¹ Therefore, inventory profits are not only unrealized but they

⁷⁷Dan Throop Smith, "Business Profits During Inflation," Harvard Business Review, March, 1948, p. 221.

⁷⁸James P. Daly, "LIFO Inventories and National Income Accounting," Survey of Current Business, May, 1953, p. 20.

⁷⁹Henry B. Arthur, "Inventory Profits in the Business Cycle," The American Economic Review, March, 1938, p. 27.

⁸⁰Ibid., p. 30.

⁸¹See the section on "The Influence of Inventories and Inventory Investment on Business Cycles," supra.

are also unrealizable if the concern is to continue in business.⁸² The disposable cash criterion is most strongly advocated by the users of the base stock method. This method has found favor among companies where there are large investments in raw materials that fluctuate widely in price.⁸³

The current cost criterion can be regarded either as a fourth criterion or as a variant of the disposable cash criterion. Many economists have long insisted that replacement cost should be used in computing the cost of goods sold. J. M. Clark says:

. . . What the concern expends now is materials which it now has, not the money which it paid out for them some months ago. And the sacrifice now involved in putting these materials into a given order is really represented by what the concern could realize on these materials if it did not make them up and sell them to this particular concern. This sacrifice is measured by the market price of the materials and not by the original cost. . .
84

Economists, businessmen, and many accountants who believe that current costs are the pertinent costs for computing cost of goods sold look at the choice between LIFO and FIFO as a choice between historical cost methods.⁸⁵ William Blackie, a Vice President of

⁸² Arthur, The American Economic Review, op. cit., p. 28.

⁸³ Butters and Niland mention that at least half a dozen prominent companies use this method. Op. cit., p. 243.

⁸⁴ J. Maurice Clark, Studies in the Economics of Overhead Costs (Chicago: The University of Chicago Press, 1923), p. 197.

⁸⁵ Joel Dean, Managerial Economics (New York: Prentice-Hall, Inc., 1951), p. 23.

Caterpillar Tractor Company, says: "The real justification for 'lifo' would be that it approaches a current cost basis, and thus produces the approximation of a coordinated relationship between sale and acquisition on one common price level."⁸⁶ They thus accept Lifo only because it normally gives figures approaching replacement costs. In a period of rapidly rising prices the spread between replacement cost and Lifo may still be sizable. Dean says: "To attain the ideal of economic realism, a full restatement of inventory in constant prices is required."⁸⁷

The Usual Methods of Inventory Valuation Have
Given Rise to "Inventory Profits"
and "Inventory Losses"

Factors on which the size of inventory profits and losses
depend at the firm level. --It has been demonstrated that different inventory valuation methods affect reported profits and that according to the concept of profit held by critics of inventory accounting methods, inventory profits appear during the upswing and inventory losses appear during the downswing--most of this criticism being leveled at Fifo. On what factors does the size of these inventory profits and losses

⁸⁶ William Blackie, "What Is Accounting Accounting For--Now?" National Association of Cost Accountants Proceedings, 1948, p. 34.

⁸⁷ Dean, op. cit., p. 23.

depend?

As far as the individual firm is concerned, the size of the inventory profits and losses is dependent on several factors. The first is the violence of the price change. The more rapid the change in prices, the greater will be the inventory profits, or losses. The second factor is the length of the inventory turnover period. If the turnover is rapid, the stock is sold out before any substantial changes occur in the value of the stock on hand. In the case of manufacturers with long periods of production this factor becomes very important. A third factor is the ratio of inventories to total assets. In companies where this ratio is large, inventory profits and losses are of more importance than in companies where the ratio is negligible. A fourth factor mentioned by one writer⁸⁸ is the "volatility" or elasticity of demand. The demand for some types of goods⁸⁹ can almost disappear during depressions; hence, the possibility of inventory losses is greater. A fifth factor is the relation of sales prices to the cost of goods sold. Inventories could be large relative to total assets or to net worth without being large in relation to net income. The smaller the rate of gross profit, other things being equal, the more important the method of inventory valuation becomes. Many writers mention the degree of

⁸⁸Cotter, op. cit., p. 87.

⁸⁹e.g., luxury goods.

integration of the business unit as being a factor in the size of inventory profits and losses. The integrated producer is thought less likely to be affected by fluctuations in inventory valuation than his non-integrated competitors.⁹⁰

In addition to certain of the factors enumerated as important at the firm level, the size of the inventory profits, or losses, for the economy as a whole depends upon the prevalence of the use of Lifo or Fifo. In other words, if most companies use Lifo or base stock, the inventory profits, or losses in the economy would be less than if most companies used Fifo.

A survey of the inventory valuation methods in most common use. --A survey was made by the Research Department of the American Institute of Accountants of 500 published reports of companies listed on the New York Stock Exchange for the year, 1939.⁹¹ Of these 500 reports, 442 contained one or more inventory items. A total of 1,333 inventory items was contained in the 500 reports. Given below is a tabulation of the results:⁹²

(1) Cost or market, whichever is lower, or variations thereof . . . 747

⁹⁰Cotter, op. cit., p. 87.

⁹¹Research Department of the American Institute of Accountants, "Inventories," The Journal of Accountancy, October, 1940, p. 334.

⁹²Ibid., p. 335.

(2) Cost, standard cost, estimated cost, or other cost bases . . .	267
(3) Market, selling price, realizable amounts, and the like . . .	47
(4) Basic or fixed prices . . .	21
(5) Less than cost, less than market, cost less unspecified reserve, and other "less than" or "not in excess of" bases . . .	180
(6) Other bases specified . . .	7
(7) Total of above items for which basis specified . . .	1,269
(8) Basis not given . . .	64

Table 9 gives the results of other surveys made by the American Institute. From this cumulative survey covering the years 1946-1952, as well as from the older survey for 1939, it can be seen that cost or market whichever is lower is the prevalent method of inventory valuation in use, with cost as a poor second. Table 10 shows the methods used by companies to determine "cost." It is worthy of note that in the years from 1946 to 1948, average cost was more common in the companies surveyed than was Fifo. However, the table shows that only slightly more than fifty per cent of the companies reported their method of determining cost during these years. The information from 1948 to 1952 is more specific. Note that LIFO had the better of it in every year except 1949, with Fifo running a fairly close second and with average cost a close third.

TABLE 9
INVENTORIES--BASIS OF PRICING
1946-1952*

Basis of Pricing:	1952	1951	1950
1. Lower of cost or market . . .	488	484	489
2. Cost	199	202	184
3. Cost or less than cost	29	33	36
4. Cost or less than cost not . . .			
in excess of market	12	13	12
5. Market	25	24	26
6. Less than cost or market . . .	2	2	2
7. Less than market	1	1	1
8. Estimated selling price	6	6	5
9. Contract price or sales price .	3	3	3
10. Contract price less billings .	5	4	4
11. Assigned values	8	6	7
12. Various other bases	5	5	5
Total	783	783	769
13. Basis not stated . . . . .	..	..	..
14. No inventories or			
inventories negligible . . . .	..	..	..
15. Cost or less--not exceeding			
replacement cost . . . . .	..	..	..
16. Cost--not over estimated			
realizable amount . . . . .	..	..	..
Total . . . . .	..	..	..

*Source: 1946-1948, American Institute of Accountants,
Accounting Trends and Techniques, 4th Annual Cumulative Survey,
1950, p. 35. 1949-1952, American Institute of Accountants, Ac-
counting Trends and Techniques, Seventh Edition, 1953, p. 67.
Note: Basis of pricing not exactly comparable between two
series.

TABLE 9 --Continued

1949	1948	1947	1946
489	446	437	428
162	112	113	111
34	43	44	46
13	11	11	11
26	20	19	23
2	11	10	14
1	17	17	13
7	.	.	.
3	6	6	7
4	.	.	.
7	.	.	.
5	8	8	14
<hr/> 752			
.	12	15	15
.	4	4	2
.	3	3	3
.	<hr/> <u>2</u>	<hr/> <u>2</u>	<hr/> <u>2</u>
.	<hr/> 695	<hr/> 689	<hr/> 639

TABLE 10
INVENTORIES
METHODS OF DETERMINING COST
1946-1952*

Method of Determining Cost	1952	1951	1950
1. Last-in, first-out	187	185	161
2. First-in, first-out	133	132	128
3. First-in, first-out, retail			
stores	4	5	4
4. Average cost.	127	126	119
5. Standard cost	30	28	29
6. Approximate cost.	16	17	19
7. Production cost	12	9	7
8. "Actual" cost	7	7	10
9. Replacement cost.	3	3	2
10. "Estimated" cost	2	2	2
11. Retail method	8	6	6
12. Base or normal stock method .	7	7	6
13. Job-order method	4	4	4
14. Various other methods	5	6	5
Total	545	537	502
15. Not indicated	•	•	•
16. Lifo--retail method	•	•	•
17. Fifo--retail method	•	•	•
18. Specific invoice cost	•	•	•
19. Inventories negligible	•	•	•
20. Relative value method	•	•	•
21. Market prices of ingredients .			
plus manufacturing	•	•	•
Total	•	•	•

*Source: 1946-1948, American Institute of Accountants,
Accounting Trends and Techniques, 4th Annual Cumulative Survey,
1950, p. 37. 1949-1952, American Institute of Accountants, Ac-
counting Trends and Techniques, Seventh Edition, 1953, p. 67.

TABLE 10 --Continued

1949	1948	1947	1946
117	91	86	79
120	87	92	102
4	..	..	..
113	110	107	100
34	26	24	23
23	..	..	..
7	..	..	..
13	8	7	..
2	..	..	..
2	5	3	..
9	6	5	..
7	6	6	6
4	..	..	..
5	..	..	..
460			
..	295	284	289
..	6	3	12
..	6	4	..
..	10	9	..
..	4	4	2
..	1	..	..
..	1 662	1 635	1 614

Table 11 is also revealing since it shows a definite trend to LIFO for the same 600 companies surveyed from 1949-to 1952. It is especially worthy of notice that a large number of companies adopted LIFO in 1950 and 1951.

TABLE 11
LIFO INVENTORY COST METHOD
CHANGES DURING THE YEAR
1949-1952^a

Number of Companies	1952	1951	1950	1949
1. Using LIFO at beginning of year	185	161	117	117
2. Adopting LIFO during year . . .	3	26	43	1
3. Readopting LIFO during 1950 . . .	. . .	. . .	1	. . .
4. Abandoning LIFO during year . . .	(1) ^b	(2)	. . .	(1)
5. Using LIFO at end of year . . .	187	185	161	117
6. Not referring to use of LIFO as of year end	413	415	439	483
Total	600	600	600	600
7. Extending LIFO to additional inventory classes during year	3	6	15	1
8. Partially abandoning LIFO during year	1	1	1	. . .

^aSource: American Institute of Accountants, Accounting Trends and Techniques, Seventh Edition, 1953, p. 74.

^b() Indicates deduction.

Another study showing the trend to LIFO was made by the Office of Business Economics of the U. S. Department of Commerce.

"Over 2300 corporations of all sizes and in every phase of manufacturing

activity were asked to report the book value of their Lifo inventories.⁹³

Replies to this survey were supplemented by Lifo data from the pub-

lished financial statements of large firms not covered by the survey.⁹⁴

The results of this study are summarized in the following table:

TABLE 12

ESTIMATES OF LIFO INVENTORIES FOR MANUFACTURING
INDUSTRIES, YEAR-END, 1951,
AND YEAR-END, 1947*
(MILLIONS OF DOLLARS)

		1951	1947	
	Total Book Value	Lifo Book Value	Lifo Per cent	Lifo Per cent
Total manufacturing . . .	\$43,056	\$6,375	15	12
Durable-goods industries.	22,650	2,999	13	10
Non-durable-goods industries	20,406	3,376	17	14

*Source: Survey of Current Business, May, 1953, p. 17.

In addition to revealing a trend to Lifo this table shows the per cent of manufacturers' inventories estimated to have been on a Lifo basis for the year 1947 and 1951. From a sample, Butters and Niland estimated that for 1947 at least 13 per cent of total manufacturers'¹

⁹³Daly, op. cit., p. 17.

⁹⁴Ibid.

inventories were on LIFO with the possibility that the figure may have been as high as 17 per cent.⁹⁵ Butters and Niland conclude that "LIFO inventories no longer can be brushed aside as of negligible importance."⁹⁶

The use of LIFO is concentrated in the large companies. This is strikingly shown by the following tabulation of a study of 559 companies made by the National Industrial Conference Board:

TABLE 13

USE OF LIFO METHOD OF INVENTORY VALUATION
IN DIFFERENT SIZED COMPANIES*

Assets (Millions of Dollars)	Companies Reporting	Companies Using LIFO	
		Number	Per cent of Total
0 - 4.9	175	33	18
5 - 24.9	221	37	17
25 - 99.9	115	33	28
100 and over	48	21	44
Total	559	124	22

*Source: James A. Finley, Handling Higher Replacement Costs ("Studies in Business Policy No. 47"; New York: National Industrial Conference Board, 1950), p. 14.

⁹⁵Butters and Niland, op. cit., p. 55.

⁹⁶Ibid., p. 7.

This concentration of LIFO in large industries, especially those industries "marked by large stocks of basic raw materials with very sensitive price" was also mentioned by Daly.⁹⁷ Butters and Niland also found a concentration of LIFO among large companies. They found that: "Less than 15% of the total inventories of companies with assets of under \$10 million are held by LIFO companies"⁹⁸ but the "figure rises consistently to nearly 73% for companies with assets of more than \$500 million."⁹⁹ This limitation of LIFO to a limited range of industries and to the large companies within these industries makes its importance greater than may be realized.¹⁰⁰

The quantitative importance of inventory profits and losses in the economy. --Table 14 gives an estimate of the misstatement of corporate profits due to accounting methods of inventory valuation. This table is based on the "inventory valuation adjustment" of the U. S. Department of Commerce but according to Butters and Niland the estimates are "adequate to indicate the general magnitude of inventory profits and

⁹⁷Daly, op. cit., p. 16.

⁹⁸Butters and Niland, op. cit., p. 61.

⁹⁹Ibid.

¹⁰⁰Ibid., p. 7. The authors mention these industries as being LIFO industries: Meat packing, textiles and apparel, leather and its products, lumber and basic timber products, paper and allied products, petroleum, iron and steel companies, and nonferrous metals. Ibid., p. 51.

TABLE 14

MISSTATEMENT OF CORPORATE PROFITS DUE TO
 ACCOUNTING INVENTORY VALUATION^a
 1897-1954
 (MILLIONS OF DOLLARS)

1897 . . .	\$ 23	1917 . . .	\$2,569	1937 . . .	\$ 31
1898 . . .	0	1918 . . .	1,442	1938 . . .	(963)
1899 . . .	344	1919 . . .	1,365	1939 . . .	714
1900 . . .	(35) ^b	1920 . . .	(2,812)	1940 . . .	200
1901 . . .	68	1921 . . .	(4,555)	1941 . . .	2,471
1902 . . .	246	1922 . . .	633	1942 . . .	1,204
1903 . . .	(172)	1923 . . .	114	1943 . . .	773
1904 . . .	116	1924 . . .	(116)	1944 . . .	287
1905 . . .	((14))	1925 . . .	261	1945 . . .	564
1906 . . .	200	1926 . . .	(1,276)	1946 . . .	5,263
1907 . . .	76	1927 . . .	(597)	1947 . . .	5,899
1908 . . .	(49)	1928 . . .	(46)	1948 . . .	2,150
1909 . . .	430	1929 . . .	(472)	1949 . . .	(1,943)
1910 . . .	(266)	1930 . . .	(3,260)	1950 . . .	4,864
1911 . . .	(86)	1931 . . .	(2,414)	1951 . . .	1,260
1912 . . .	344	1932 . . .	(1,047)	1952 . . .	(967)
1913 . . .	(27)	1933 . . .	2,143	1953 . . .	1,087
1914 . . .	(194)	1934 . . .	625	1954 . . .	227
1915 . . .	401	1935 . . .	227	1955 . . .	1955
1916 . . .	2,218	1936 . . .	738	1956 . . .	1956

^aSource: 1897-1928, Raymond W. Goldsmith, A Study of Saving in the United States (Princeton: Princeton University Press, 1955), I, 903. 1929-1951, U. S. Department of Commerce, National Income--A Supplement to the Survey of Current Business (U. S. Government Printing Office, 1954), pp. 168 f. 1952-1954, U. S. Department of Commerce, Survey of Current Business, July, 1955, p. 18.

^bNote: () Indicates understatement of profit.

losses.¹⁰¹ This table shows that the year of greatest inventory losses, \$3,260 billion, was 1930 and the year of largest inventory profits, \$5,899 billion, was 1947.

Summary of the Chapter

Writers on business fluctuations have tended to ignore the influence of inventories until the relatively recent past. Although the exact roles of inventories and of inventory investment are still unsettled, most writers are agreed that the fluctuations of inventory investment is the principal characteristic of the minor, or Kitchin, cycle.

The accounting methods of inventory valuation have come under attack by many students of business fluctuations. This is due to the fact that the method of computing the value of ending inventories affects the profit for the period through the cost of goods sold; the higher the value placed on the ending inventory, the lower the cost of goods sold and hence, the greater the reported profits. Different "acceptable" accounting methods of valuing the same inventory, as far as physical quantities are concerned, will give different dollar figures, which in turn, will be reflected in the net profit for the period.

Traditionally, inventories have been valued at the lower of cost or market, with cost being computed on a Fifo or average cost basis.

¹⁰¹ Ibid., p. 16.

With a rising price level this method is said to overstate the ending inventory, and thus to overstate profits for the period. When prices are falling, the situation is reversed. This technique thus produces "paper profits," or "inventory profits," which are due to an increase in value placed on a constant volume of physical inventories. The size of these inventory profits depends upon many factors and is, therefore, not of the same degree of significance in all businesses or industries. In periods of rapidly changing prices this problem is especially acute with respect to industries having large investments in inventories relative to total assets--or to net worth--, a slow rate of inventory turnover, and a low rate of gross profit based on sales--e.g., the meat packing industry.

The inventory valuation adjustment of the U. S. Department of Commerce is a rough measure of the misstatement of profits, due to accounting methods, for the economy. That this overstatement and understatement of profits based on accounting inventory valuation methods is thought to have cyclical implications may be seen by the following quotation by a well-known accountant:

Overstated profits represented by fictitious inventory valuations, arrived at under conventional accounting methods, has a large, if not a determining, influence in emphasizing and exaggerating both the rise and fall of corporate earnings, security prices and the revenues of the government derived from the federal income tax. When corporate earnings were exaggerated

by the inclusion of fictitious inventory profits, unjustified dividends were paid, and already adequate facilities were expanded recklessly.¹⁰²

The inclusion of inventory profits and losses is thus one of the principal means by which "economic profit" is said to be misstated by accounting methodology.

¹⁰² Maurice E. Peloubet, "Present-Day Problems in Inventory Valuation," National Association of Cost Accountants Year Book, 1936, p. 185.

Appendix

Assumption: A beginning inventory of 1,000 units at \$4.00 per unit.

I. Physical units constant on each inventory date.

A. First Period-Prices Rising

Purchases:

1,000 at \$4.25	\$4,250
2,000 at 4.50	9,000
<u>3,000 at 4.60</u>	<u>13,800</u>
6,000	\$27,050

Ending Inventory (1,000 units):

FIFO: 1,000 at \$4.60 \$4,600

LIFO: 1,000 at 4.00 \$4,000

B. Second Period-Prices Rising

Purchases:

1,000 at \$4.80	\$4,800
1,500 at 4.90	7,350
3,500 at 5.50	19,250
<u>2,000 at 5.60</u>	<u>11,200</u>
8,000	\$42,600

Ending Inventory (1,000 Units):

FIFO: 1,000 at \$5.60 \$5,600

LIFO: 1,000 at 4.00 \$4,000

C. Third Period-Prices Falling

Purchases:

2,000 at \$5.60	\$11,200
1,500 at 5.50	8,250
1,500 at 5.50	8,250
<u>1,000 at 5.40</u>	<u>5,400</u>
6,000	\$33,100

Ending Inventory (1,000 units):

FIFO: 1,000 at \$5.40 \$5,400

LIFO: 1,000 at 4.00 \$4,000

D. Fourth Period-Prices Falling**Purchases:**

1,000 at \$5.40	\$5,400
1,000 at 5.30	5,300
1,000 at 5.00	5,000
500 at 4.60	2,300
500 at 4.50	2,250
<u>4,000</u>	<u>\$20,250</u>

Ending Inventory (1,000 units):

FIFO: 500 at \$4.60	\$2,300
500 at 5.50	2,250
<u>1,000</u>	<u>\$4,550</u>

LIFO: 1,000 at \$4.00 \$4,000

II. Inventory Investment Increasing**A. First Period-Prices Rising****Purchases:**

1,000 at \$4.25	\$ 4,250
2,500 at 4.50	11,250
<u>3,000</u> at 4.60	<u>13,800</u>
<u>6,500</u>	<u>\$29,300</u>

Ending Inventory (1,200 units):

FIFO: 1,200 at \$4.60 \$5,520

LIFO: 1,000 at \$4.00 \$4,000
200 at 4.25 850
1,200 \$4,850

B. Second Period-Prices Rising**Purchases:**

1,000 at \$4.80	\$ 4,800
1,500 at 4.90	7,350
3,500 at 5.50	19,250
<u>3,000</u> at 5.60	<u>16,800</u>
<u>9,000</u>	<u>\$48,200</u>

Ending Inventory (1,600 units):

FIFO: 1,600 at \$5.60 \$8,960

LIFO: 1,000 at \$4.00 \$4,000
600 at 4.25 2,550
1,600 \$6,550

III. Inventory Investment Decreasing**A. Third Period-Prices Falling****Purchases:**

2,000 at \$5.60	\$11,200
1,200 at 5.50	6,600
1,000 at 5.50	5,500
800 at 5.40	4,320
5,000	\$27,620

Ending Inventory (1,200 units):

FIFO:	800 at \$5.40	\$4,320
	400 at 5.50	2,200
	1,200	\$6,520

LIFO:	1,000 at \$4.00	\$4,000
	200 at 4.25	850
	1,200	\$4,850

B. Fourth Period-Prices Falling**Purchases:**

1,000 at \$5.40	\$ 5,400
800 at 5.30	4,240
700 at 5.00	3,500
500 at 4.60	2,300
500 at 4.50	2,250
3,500	\$17,690

Ending Inventory (1,100 units):

FIFO:	500 at \$4.50	\$2,250
	500 at 4.60	2,300
	100 at 5.00	500
	1,100	\$5,050

LIFO:	1,000 at \$4.00	\$4,000
	100 at 4.25	425
	1,100	\$4,425

**Behavior of Average Unit Costs with Fluctuating Prices under
FIFO and LIFO**

I. Prices Rising

	<u>Constant Stocks</u>	<u>Increasing Stocks</u>
1st year	LIFO \$4,508	LIFO \$4,516
	FIFO <u>4,408</u>	FIFO <u>4,410</u>
	\$.100	\$.106
2nd year	LIFO \$5,325	LIFO \$5,418
	FIFO <u>5,200</u>	FIFO <u>5,204</u>
	\$.125	\$.214

II. Prices Falling

	<u>Constant Stocks</u>	<u>Falling Stocks</u>
3rd year	FIFO \$5,550	FIFO \$5,567
	LIFO <u>5,516</u>	LIFO <u>5,429</u>
	\$.034	\$.138
4th year	FIFO \$5,275	FIFO \$5,322
	LIFO <u>5,063</u>	LIFO <u>5,032</u>
	\$.212	\$.290

CHAPTER V

A STATEMENT OF THE CONTROVERSIES OVER DEPRECIATION POLICY AND ITS EFFECT ON INVESTMENT DECISIONS

A second target of those who think that accounting methodology accentuates business fluctuations is the accounting methods of computing the depreciation of fixed assets. Interwoven with the historical cost versus replacement cost argument, which has already been encountered with respect to inventory accounting, are arguments over the nature of depreciation itself and what depreciation accounting is designed to accomplish. In dealing with any concept of net income, and especially in evaluating any argument relative to the "misstatement" of that income, these various viewpoints must be considered. Consequently, before proceeding with a treatment of the way in which depreciation accounting is said to affect investment decisions, a sketch of the sundry points of view is presented.

The Problem of the Proper Depreciation Base

The controversy over the nature of depreciation. --Professor Bonbright¹ has pointed out that substantially all technical meanings of depreciation are variants of four basic concepts: (1) the fall in value of an asset between two points of time; (2) the difference between the present value of an asset and the present value of a hypothetical new asset; (3) impaired serviceableness; and, (4) amortization of cost.

The fall in the value of an asset between two points of time accords with the popular usage of the term depreciation. Value as used in this sense may be either "market value" or "value to the owner."² This usage of the term does not emphasize the causes of the decrease in value between the two points of time. The fall in value might be due to a fall in the price level, or impaired usefulness or to any combination of these two causes. This view is adopted by some economists. Dean³ mentions the opportunity cost of using the equipment for a year. "The opportunity cost could be measured by the fall in value of the equipment during the year."⁴ In the case of certain assets having

¹ Irving W. Bonbright, The Valuation of Property (New York: McGraw-Hill Book Company, Inc., 1937), I, 183.

²Ibid.

³ Joel Dean, "Measurement of Profits for Executive Decisions," The Accounting Review, April, 1951, p. 187.

⁴Ibid.

no alternative use the opportunity cost would be zero.⁵

The second concept of depreciation is frequently referred to as the "appraisal concept of depreciation."⁶ Depreciation is thought of as the difference between the present worth of an old asset and the present worth of a new and modern asset for performing the same kind of service.⁷ The ultimate object is to contrast the values of two properties as of the same date.⁸ The new asset will have advantages due to longer life expectancy, lower operation and maintenance costs, and increased receipts from sales of product or service.⁹

Impaired serviceableness has been described as the "engineering concept of depreciation."¹⁰ This concept of depreciation is in no sense a value concept. An asset may be "just as good as new" in the sense that it will produce as many units of product as ever within a time period but this ignores higher operating costs, the shortened service life, and the fact that more economical means of producing the

⁵Ibid., p. 188.

⁶Eugene L. Grant and Paul T. Norton, Jr., Depreciation (New York: The Ronald Press Company, 1949), p. 13.

⁷Bonbright, op. cit., p. 185.

⁸Ibid.

⁹Grant and Norton, op. cit., p. 269.

¹⁰Ibid., p. 13.

same output may be available. "The assumption that 'just as good as new' means 'just as valuable as ever' is an error as serious as it is popular."¹¹

The amortization of cost is the accepted accounting meaning of depreciation. This concept is set forth in Accounting Research Bulletin No. 22 in these words:

Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation. Depreciation for the year is the portion of the total charge under such a system that is allocated to the year. Although the allocation may properly take into account occurrences during the year, it is not intended to be a measurement of the effect of all such occurrences.¹²

Much has been written concerning the causes of depreciation. These causes are, in general, of two kinds: (1) the wear and tear from physical operations, commonly referred to as "physical causes"; (2) "functional causes" consisting of such things as obsolescence induced by technical developments, loss of demand for the product and governmental requirements. Accountants in recent years have broadened the concept of depreciation to include both causes. This is taken care of by the rough and ready formula of writing off the asset over the

¹¹ Bonbright, op. cit., p. 183.

¹² American Institute of Accountants, Committee on Accounting Procedure, "Depreciation," Accounting Research Bulletin No. 22, May, 1944, p. 179.

estimated physical use life, or the estimated economic life, whichever is shorter. No effort is typically made by the accountant to separate the two expenses into depreciation and obsolescence.

The controversy over the purpose of depreciation accounting. --

Another controversy related to the nature of depreciation is that of the purpose of the periodic deduction for depreciation in the determination of net income. This controversy is by no means a new one.¹³ Furthermore, not all economists, all businessmen, or all accountants are on one side or the other of this debate. Many accountants agree with economists and with businessmen up to a point. What are the different views on the purpose of depreciation accounting?

There is a widespread feeling that the primary purpose of depreciation accounting is to provide for the replacement of the related asset when its utility to the business concern has been exhausted.

Turgot in his Reflections on the Formation and the Distribution of Riches in 1770 emphasized this replacement aspect of depreciation: "In the case of enterprises in agriculture before there is any net product there must be deducted that wherewith to replace annually the wear

¹³See, John Bauer, "Renewal Costs and Business Profits in Relation to Rising Prices," The Journal of Accountancy, December, 1919, pp. 413 f.; H. C. Hasbrouck, "Cost vs. Value in Depreciation Accounting for Utilities," The Journal of Accountancy, October, 1923, p. 280; and, N. D. Farmer, "The Argument in Favor of Depreciation on Replacement Values," National Association of Cost Accountants Year Book, 1923, p. 193.

and tear of the property employed in their undertaking, the cattle that die, the tools that wear out, etc. . . ."¹⁴

In the past the emphasis has been on maintaining the productive capacity of the plant. Farmer stated this position as follows:

What is to be gained by charging depreciation? The answer is, to insure the continued productive capacity of a going business. It goes a step beyond protecting the capital investment based on cost. The point I wish to emphasize is that depreciation is designed to insure the continuation of this productive capacity. . . .¹⁵

This is in line with Sweeney's second concept of maintaining capital intact.¹⁶ More recently, it has been recognized by many writers that the assets may not be replaced in kind, but even so, depreciation "is better measured by replacement value of equipment that will produce comparable earnings."¹⁷

Thus replacement costs are important not because the asset will in fact be replaced but because this is the best measure of current costs, and it is current costs that are important in business decisions. William Blackie, Vice President of Caterpillar

¹⁴ Anne Robert Jacques Turgot, Reflections on the Formation and the Distribution of Riches (New York: The Macmillan Company, 1898), p. 55.

¹⁵ Farmer, op. cit., p. 193.

¹⁶ See, "Maintaining capital intact," Chapter III.

¹⁷ Joel Dean, Managerial Economics (New York: Prentice-Hall, Inc., 1951), p. 18.

Tractor Company, exemplified this viewpoint in these words: ". . . replacement cost is here indicated not at all because the assets will be replaced at these or at any other costs but only because replacement cost is generally to be expected to offer a reasonably acceptable measurement of appropriate current costs--as well as a reasonably available means of measuring it. . . ."¹⁸

In the post-war years, especially, the replacement cost concept of depreciation has been widely advocated by businessmen. Frank M. Hesse, Vice President of National Steel Corporation, in speaking of the three sources of funds for replacement says: "The third source is depreciation reserves out of which we can replace our properties from year to year at whatever rate is made necessary by competitive conditions."¹⁹ Enders McC. Voorhes, Chairman of the Finance Committee of the U. S. Steel Corporation, also stressed the replacement concept of depreciation: "In my opinion the replacement of facilities should be part of the cost, and that turn-over or that cash should be recovered in the selling price for the people who obtain the product

¹⁸ William Blackie, "What Is Accounting Accounting For--Now?" National Association of Cost Accountants--Conference Proceedings, 1948, pp. 37 f.

¹⁹ Frank M. Hesse, "Management's Viewpoint," Replacement Costs and Depreciation Policy ("Studies in Business Policy No. 27"); New York: National Industrial Conference Board, 1948), p. 13.

and therefore the service. . . .²⁰

The second point of view is that the original dollars invested in the depreciable asset should be recovered before any profit is reported. The depreciation charged should be measured in the same dollars as originally invested even though the purchasing power of those dollars has changed. This insures that the dollar value of the capital will remain intact. As pointed out in Chapter III, this maintenance of the nominal capital is the orthodox, traditional accounting viewpoint. Thus, the "accounting for fixed assets should normally be based on cost, and any attempt to make property accounts in general reflect current values is both impracticable and inexpedient."²¹

According to this point of view, depreciation is only indirectly related to the replacement of the asset. One noted writer in accounting has stated that depreciation "is the accounting for a past expenditure, not a provision for a future one. The relationship between depreciation and replacements is purely coincidental--most assets are replaced at the time of retirement."²² The loose relationship between

²⁰U. S. Congress, Profits, A Report of a Subcommittee on the Economic Report on Profit Hearings, 80th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 54.

²¹American Institute of Accountants, Committee on Accounting Procedure, "Depreciation on Appreciation," Accounting Research Bulletin No. 5, April, 1940, p. 37.

²²Perry Mason, "Depreciation and the Financing of Replacements," The Accounting Review, December, 1935, p. 320.

depreciation accounting and the replacement of the assets is also emphasized by the Committee on Accounting Procedure of the American Institute of Accountants: "It may be desirable to point out that depreciation is only indirectly related to replacement. It contemplates the amortization of the cost of existing property--not anticipation of the cost of replacing it as a replacement reserve might do. . . ."²³ The Committee recognizes that when prices have risen substantially since the original investment in plant and facilities were made, a substantial portion of reported net income must be reinvested in the business in order to maintain assets at the same level of productivity at the end of a year as at the beginning.²⁴ However, stockholders, employees, and the public should be informed of this fact by the use of supplementary schedules, explanations, and footnotes.²⁵

A third viewpoint is that depreciation policy should operate to recover the original investment in terms of equivalent purchasing power. The adherents of this doctrine agree that depreciation should be amortized cost but do not go along with the accounting concept of

²³ American Institute of Accountants, Committee on Accounting Procedure, "Report of Committee on Terminology," Accounting Research Bulletin No. 16, October, 1942, p. 142.

²⁴ American Institute of Accountants, Committee on Accounting Procedure, "Depreciation and High Costs," Accounting Research Bulletin No. 33, December, 1947, p. 270 B.

²⁵ Ibid.

original cost. Terborgh says:

I have no quarrel with the basic approach of the accounting profession, except that I would add an essential qualification: the recovery of the investment via the depreciation charge must be in dollars equivalent in purchasing power to the dollars originally invested. The dollars of recovery must equate the dollars of acquisition.²⁶

This group thinks that the approach to the problem of changing price levels via replacement cost is wrong in theory as well as being fraught with practical difficulties. Terborgh states that: ". . . you are all aware that capital assets are rarely replaced in kind. Indeed, by and large, they are replaced because different and better assets are available. . . ."²⁷ Further on, the same writer says:

We should stop confusing depreciation policy with replacement policy. The two have nothing to do with each other. The function of depreciation is to recover the capital investment, not to replace the asset. If the recovery is good, if it is equal to the investment in real purchasing power at the time it was made, it makes no difference whatsoever what is subsequently done with the funds recovered.²⁸

Thus, the question of the purpose of depreciation revolves around the concept of net income chosen. As pointed out by Froehlich: . . . What and how to depreciate thereby depends on the income concept chosen. In other words, every depreciation method depends on the definition of income. The primary consideration

²⁶George Terborgh, "Economic Aspects of Underdepreciation," Replacement Costs and Depreciation Policy, op. cit., p. 5.

²⁷Ibid.

²⁸Ibid., p. 6.

is historical cost if money capital is to be kept intact, reproduction cost if real capital is to be kept intact; historical cost if maintenance of capital is more important; and reproduction cost if maintenance of the stream of earnings is more important. . . .²⁹

Some proposed methods of implementing the recovery of equivalent purchasing power. --In order to clarify the third viewpoint it will be helpful to see what has been proposed to convert depreciation from historical cost to "dollars of equivalent purchasing power." Terborgh³⁰ has divided the various proposals into "one-shot" adjustments and continuous adjustments. Terborgh himself is an advocate of the one-shot adjustment. He prescribes it primarily on the basis of expediency and not on the basis of principle. He admits that the one-shot adjustment is "less accurate and flexible but much simpler"³¹ than continuous adjustment since "the continuous adjustment of temporally heterogeneous accounts is a rather fussy business."³² Terborgh advocates supplementing depreciation on prewar assets (those bought prior to 1942) by a flat fifty per cent surcharge. Depreciation on assets

²⁹Walter Froehlich, "The Role of Income Determination in Reinvestment and Investment," The American Economic Review, March, 1948, pp. 86 f.

³⁰Terborgh, op. cit., p. 6.

³¹George Terborgh, Depreciation Policy and the Postwar Price Level (Chicago: Machinery and Allied Products Institute, 1947), p. 13.

³²Ibid.

bought since the war would be adjusted accordingly. When the one-shot adjustment gets out of line with the current price level, there would be another one-shot adjustment.

In using continuous adjustment, the depreciation on original cost is multiplied by the ratio of the price level in the current year to the price level of the year in which each asset was acquired. A second question must be faced and that is the purchasing power to be preserved--generalized or specific. Terborgh advocates the generalized: ". . . My answer is that it must be some generalized measure, not its purchasing power over the specific capacity in question. . . ."³³ Blackie, on the other hand, recommends a specific purchasing power index: ". . . As both a theoretical and a practical, usable concept, therefore, the 'appropriateness' of indexes to be used for the contemplated purposes would have to rest on their construction as measurements of purchasing power in terms of only whatever it is that is purchased--inventories, machinery, buildings--all reflecting both material and labor. . . ."³⁴ Terborgh states that from a practical angle if we used a generalized purchasing power concept, we would get roughly the same index for both consumers' and producers' goods.³⁵

³³Replacement Costs and Depreciation Policy, op. cit., p. 6.

³⁴Blackie, op. cit., p. 37.

³⁵Depreciation Policy and the Postwar Price Level, op. cit., p. 11.

Provisions actually used by firms to adjust historical cost depreciation. --In 1948 the National Industrial Conference Board reported on the 1947 practices of a sample of 572 companies relative to the recognition of higher replacement costs in their 1947 financial statements. As a result of this survey, the statement was made that "accounting-wise there is evidence that many managements have weighed the advantages of departing from traditional accounting practices and gearing their depreciation charge to current costs,"³⁶ but that few "have taken this step."³⁷ Table 15 shows that sixty-eight, or twelve per cent, gave accounting recognition to higher replacement costs.

Of the sixty-eight companies giving accounting recognition to higher replacement costs, twenty-eight supplied information as to the relationship of the special charge to normal depreciation. The results are given in Table 16.

Of the sixty-eight companies reporting some sort of accounting provision for higher replacement costs, thirty-two were available for review.³⁸ Six had established special reserves out of accumulated

³⁶James A. Finley, Handling Higher Replacement Costs ("Studies in Business Policy No. 47"; New York: National Industrial Conference Board, 1950), p. 15.

³⁷Ibid.

³⁸Ibid., p. 16.

TABLE 15
COMPANIES RECOGNIZING HIGHER REPLACEMENT
COSTS IN 1947 FINANCIAL STATEMENTS,
BY ASSET SIZE*

Assets (Millions of Dollars)	Companies Reporting	Companies Making Provision in Financial Statements	
		Number	Per Cent of Total
0 - 4.9	175	26	15
5 - 24.9	221	22	10
25 - 99.9	115	9	8
100 and over	48	11	23
Total	559	68	12

*Source: James A. Finley, Handling Higher Replacement Costs ("Studies in Business Policy No. 47"; New York: National Industrial Conference Board, 1950), p. 15.

TABLE 16
RELATION OF SPECIAL CHARGE FOR HIGHER
REPLACEMENT COSTS TO NORMAL
DEPRECIATION CHARGE*

Relation of Special Charge to Normal Depreciation Charge	Number of Companies
25% - 50%	8
51% - 75%	10
76% - 100%	4
101% - 125%	2
Over - 125%	4
Total	28

*Source: James A. Finley, Handling Higher Depreciation Costs ("Studies in Business Policy No. 47"; New York: National Industrial Conference Board, 1950), p. 16.

earnings, twenty-one deducted the special provision from current net profit, and only five included the item as a cost before determining net profit.³⁹ No clear-cut pattern emerged as to the basis of determining the amount to be set aside,⁴⁰ the methods being rather arbitrary in most cases.

The purposes and motive behind depreciation adjustments are also revealing. In field interviews with twenty-two companies which constituted about one-half or more of the large companies with a highly developed depreciation adjustment for price changes,⁴¹ Brown found the following purposes underlying the adjustments:⁴² (1) to accumulate funds for the future replacement of assets; (2) to match current revenues by costs stated in terms of current purchasing power; (3) to amortize excess costs against present revenues since they believed that currently purchased high-cost plant could not compete with lower-cost plant purchased in some future period. As to the motives behind the adjustments, Brown⁴³ mentions: to justify small dividends to stockholders, to justify prices, to reduce wage demands, and to reduce

³⁹ Ibid., p. 16.

⁴⁰ Ibid.

⁴¹ E. Cary Brown, Depreciation Adjustments for Price Changes (Cambridge: The Riverside Press, 1952), p. 42.

⁴² Ibid., p. 11.

⁴³ Ibid.

overoptimism within the firm. The National Industrial Conference Board study gives as reasons for failure of more firms to make accounting adjustments:⁴⁴ (1) They are not allowed for tax reporting purposes; (2) they are frowned upon by the SEC; and (3) they are officially disapproved of by the society of professional accountants.

A comparison of the current cost concept with respect to inventories and fixed assets. --One of the problems of computing depreciation expense by business firms thus involves the same basic argument over the use of historical costs and current costs which has already been encountered in inventory accounting. The cyclical implications of basing depreciation expense on historical cost are, in general, the same as with the use of Fifo in inventory valuation. Depreciation expense will generally be lower during the upswing and higher during the down-swing if based on historical cost rather than on current costs. The same misstatement of profit is alleged to occur with its concomitant effect on investment decisions. There are, however, some special problems which are encountered with respect to depreciation based on the "Lifo principle"⁴⁵ that were not met in the case of inventory accounting.

⁴⁴Finley, op. cit., p. 15.

⁴⁵This expression was used by George O. May, "Should the LIFO Principle Be Considered in Depreciation Accounting When Prices Vary Widely?" The Journal of Accountancy, December, 1947, pp. 453-456.

As far as orthodox accounting is concerned, the LIFO method of inventory valuation is, at least, a cost method. Depreciation on the basis of replacement cost, or based on historical cost converted to current cost by means of an index number, would charge depreciation on a hypothetical cost. While discussions in Chapter III and Chapter IV have shown that this would be in accordance with most economists' concept of income, it is still anathema to the majority of the accounting fraternity. This attitude is summed up in the words of Mr. Carman G. Blough, Director of Research of the American Institute of Accountants:

. . . Under the theory of LIFO goods sold are charged out at a cost that has actually been incurred for some that were acquired during the year. The procedures that have been advocated for charging costs of fixed assets cannot be related to any actual costs. They are not designed to charge the latest costs of facilities into expense. Instead they contemplate a charge based on the cost of facilities not yet acquired. Someone has appropriately dubbed this the NIFO method--next in, first out. Its effect may have some of the same effects that LIFO has for inventories, but it seems to be highly unrealistic as a possible procedure to meet this problem.⁴⁶

That all accountants are not in agreement with this viewpoint of Mr. Blough, however, may be seen from this statement by Samuel J. Broad:

Personally, I would not regard the use of an index related to the purchasing power of the dollar as a departure from the cost

⁴⁶Carman G. Blough, "The Accountant's View," Replacement Costs and Depreciation Policy, op. cit., p. 11.

basis. To my mind it would merely be the measurement in current dollars of the actual dollars expended at a time when they would purchase more. It is the dollars that have changed not the costs. . . .⁴⁷

Another, and more basic, difference is that fixed assets last for relatively long periods of time, whereas inventories frequently turn over many times within an accounting period. Baxter points out this characteristic feature of fixed assets as follows:

There seems to be a general impression that the error is substantial only when prices are still going up; thus the agitation for tax concessions dies down as soon as a rise in prices is checked. In the case of plant, however, a large error can obviously persist for a long time. . . .⁴⁸

According to Gaston, fixed assets are turned over on an average of once each twenty-five years.⁴⁹ Fabricant in a study of the expected life of business capital goods manufactured in 1929 estimated that approximately twenty-nine per cent of the value of the output of the capital goods industry had an expected life of more than twenty-five years.⁵⁰

⁴⁷Samuel J. Broad, "The Effects of Price Level Changes on Financial Statements," National Association of Cost Accountants Proceedings, 1948, p. 20.

⁴⁸W. T. Baxter, "The Accountant's Contribution to the Trade Cycle," Economica, May, 1955, pp. 102 f.

⁴⁹J. Frank Gaston, Effects of Depreciation Policy ("Studies in Business Economics No. 22"); New York: National Industrial Conference Board, January, 1950), pp. 8 f.

⁵⁰Solomon Fabricant, "Measures of Capital Consumption, 1919-1933," National Bureau of Economic Research Bulletin 60, June 30, 1936, Table 4, p. 7.

When the change in the price level comes to an end, inventory profits and losses disappear. However, depreciation expense will continue to be computed for many years on the basis of a price level that has long ceased to exist.

In addition to the controversy over historical and current costs as the proper base for computing depreciation together with the associated cyclical implications, this lasting of fixed assets for long periods of time creates another problem--how the cost, or other basis is to be spread over the use life of the asset. The way in which this is done is said to have cyclical and long range effects on investment and consumption in its own right.⁵¹

The Cyclical Implications of the
Time Shape of the Periodic
Depreciation Charge

The position of the accounting profession relative to the time shape of the periodic depreciation expense. --Terborgh has said that "while cost is ordinarily a satisfactory measure of the amount to be allocated over the service life of assets (assuming the size of the dollar remains unchanged over the period), the amortization-of-cost approach provides no guide whatever to the allocation problem. . . ."⁵² On

⁵¹The effects of accounting methods on consumption are to be considered in Chapter VII and Chapter VIII.

⁵²George Terborgh, Realistic Depreciation Policy (Chicago: Machinery and Allied Products Institute, 1954), p. 24.

this question of the method of spreading the cost of the asset over the estimated use life accounting literature has much less to say relative to the criteria to be used than on the depreciation base.⁵³

The Committee on Accounting Procedure of the American Institute of Accountants states: ". . . All that the various methods have in common (which is all that could be embodied in a definition) is that they are designed to distribute the estimated total depreciation incurred or to be incurred during the useful life in a systematic and equitable manner."⁵⁴

This "systematic and equitable" distribution is designed to maintain the accountant's independence, especially from management. Blough states that "Business as a whole will suffer if there should be any widespread feeling among the users of financial statements that charges to income are based on the whim of management, are not in accordance with generally accepted accounting procedures, and cannot be tested for fairness within reasonable limits."⁵⁵ There is not so much stress on the effect on profit measurement of the various methods of distributing the depreciation expense.

⁵³Terborgh has said that accountants have been so busy defending the cost basis that they have forgotten the implications of this second question. Ibid., p. 23.

⁵⁴Accounting Research Bulletin No. 16, op. cit., p. 142.

⁵⁵Blough, op. cit., p. 11.

Depreciation as a function of time. --The accounting profession and the Internal Revenue Service have tended to favor the straight-line method of depreciation.⁵⁶ Its main advantages are simplicity and the large amount of experience behind its use.⁵⁷ This method makes depreciation a function of time and hence the expense does not vary with output. Depreciation expense thus tends to be a larger proportion of the sales dollar during slack times than during times of large sales. The penchant of the accountant for this method has been the target for most of the criticism of those who insist that the accountants' method of spreading depreciation over time tends to overstate profits during the upswing and to underestimate them during the downswing. This is especially true when this method is coupled with historical cost since on the upswing, for example, the base is also alleged to be understated and depreciation is a smaller per cent of the sales dollar than on the downswing.

The critics of this method fall into two groups. One group argues that from a cyclical point of view depreciation should vary

⁵⁶ A detailed discussion of the various methods may be found in H. A. Finney and Herbert E. Miller, Principles of Accounting--Intermediate (New York: Prentice-Hall, Inc., 1951), pp. 442-454; in W. A. Paton, Advanced Accounting (New York: The Macmillan Company, 1947), Chapter 12; and, W. A. Paton, ed., Accountants' Handbook (3rd ed.; New York: The Ronald Press Company, 1946), pp. 751-765.

⁵⁷ Finney and Miller, op. cit., p. 444.

with use or production. The second group stresses that, due to rapid technological changes and to the impaired usefulness of assets as they become older, the straight-line method typically understates depreciation in the early years and overstates it during the latter years of the life of the asset.⁵⁸

The argument that depreciation expense should rise and fall with output. --The critics of the straight-line method do not accept the function-of-time argument. Fabricant, a pioneer in the study of capital consumption and various adjustments thereto, says that "the mere fact that physical deterioration in capital goods is a function of time and not of output does not mean that the only logical method is to distribute the concomitant costs evenly over time. . . ."⁵⁹

The advocates of the working hours method and the production method stress the fact that these methods, or their variants, would tend to stabilize net profit over the cycle. Slichter, a severe critic of the straight-line method, says that:

. . . in good years the depreciation charge per unit of output is too small and in bad years too large. As a result, profits are overstated in good years and understated in bad. If each unit of output were charged a uniform amount for depreciation, the profits

⁵⁸Cf., the first and third concepts of depreciation under The controversy over the nature of depreciation, supra.

⁵⁹Solomon Fabricant, Capital Consumption and Adjustment (New York: National Bureau of Economic Research, 1938), p. 194.

of business enterprises in the long run would not be affected, but they would fluctuate less from year to year.⁶⁰

Fabricant points out that:

At the bottom of the recent depression, for instance, the depreciation charges on a per unit of output basis would be about 60% of the depreciation charges as currently computed (both expressed in 1929 prices). This would amount to a difference in dollars of more than 2 billions.⁶¹

Many accountants also agree, in principle, that a method of depreciation that varies with production would give a better matching of costs and revenues. Paton, for example, says: "There is considerable force in the proposition that plant assets should be written off in proportion to actual use and results accomplished rather than by periods of time as such. . . ."⁶² The difficulty of estimating the use life in terms of working hours or units of product and the fear that management may arbitrarily choose a method of writeoff that is not "systematic" are the two greatest deterrents to its wider adoption. Vatter has said that "the accounting profession must take positive steps toward securing uniformity and consistency in depreciation computations lest through looseness of method and abandonment of principles the

⁶⁰ Sumner H. Slichter, "Must We Have Another Depression?" The Atlantic Monthly, May, 1937, p. 604.

⁶¹ Fabricant, Capital Consumption and Adjustment, op. cit., p. 199.

⁶² Paton, op. cit., p. 291.

science of accounting becomes a mere manipulation of figures to produce desired or predetermined results."⁶³

The argument for accelerated depreciation. --In recent years much has been written concerning the economic effects of "accelerated depreciation." Brown has defined accelerated depreciation "broadly viewed" as: ". . . an increase in the speed with which the historic cost of an asset is written off through depreciation deductions. . . ."⁶⁴ While accounting literature has emphasized a relatively few methods for accomplishing this speed-up in the writeoff of fixed assets--such as the sum of years' digits method and the fixed percentage of diminishing balance method--Brown states concerning his field study that "we have limited our scrutiny to fifteen plans,"⁶⁵ thus implying a multitude of plans actually encountered.

Although much of the discussion of accelerated depreciation has been in connection with the rewriting of the tax laws in order to encourage the replacement of obsolete equipment, there are those who advocate accelerated depreciation separate and apart from tax considerations.

⁶³ William J. Vatter, "Depreciation Methods of American Industrial Corporations 1927-1935," The Journal of Business, April, 1937, p. 146.

⁶⁴ Brown, op. cit., p. 115.

⁶⁵ Ibid., p. 50.

Brown⁶⁶ mentions two purposes of accelerated depreciation: to adjust to price level changes and to encourage the replacement of fixed assets or to stimulate the purchase of new plant. Since accelerated depreciation is still a cost method, it has escaped much of the criticism from the accounting profession which has been leveled at other means of adjusting to price level changes. For this reason it has been advocated in lieu of computing depreciation on the basis of higher replacement costs. Gaston, for example, states:

Accelerated depreciation escapes the criticism that has been leveled against most other plans seeking to alleviate the problem of depreciation under changing price levels. It is based upon cost, and the amount which can be charged against revenues cannot exceed the cost of the asset. A firm base is provided for the charging of depreciation.⁶⁷

In so far as the cyclical effects are concerned, the reasons advanced for a more wide-spread adoption of accelerated depreciation are those already encountered in the discussion of the depreciation base and in varying depreciation with output. The longer range problem with respect to the effect of accelerated depreciation on replacement,⁶⁸ or on the investment in new assets, will be discussed later.⁶⁹

⁶⁶Ibid., p. 116.

⁶⁷Gaston, op. cit., p. 21

⁶⁸Or what George Terborgh calls "displacement," see Dynamic Equipment Policy (New York: McGraw-Hill Book Co., 1949), p. 3.

⁶⁹See "Direct Effects of Depreciation Accounting on the Inducement to Invest," infra.

The Quantitative Significance of the Misstatement
of Profits Due to Accounting
Depreciation Methods

A survey of the depreciation methods actually used. --In a 1936 survey of depreciation methods of a representative company in 39 industries, Marple⁷⁰ received 28 replies to his questionnaires. Twenty-four of the 28 used cost as the basis for depreciation.⁷¹ As to methods of spreading the depreciation cost through time, twenty-four of the 28 used straight-line, 2 used reducing balance method, and 2 used other methods.⁷² Marple also gives the results of a study made by MAPI of 150 companies engaged in the manufacture of machinery. Of the 150, 12 did not answer, 126 used the straight-line method, 9 used a reducing balance method, one used a unit of product method, and two used a productive hour basis.⁷³

On the basis of a survey made by the National Industrial Conference Board of 572 cooperating companies, it was stated that over ninety per cent of the concerns surveyed employed the straight-line method while five per cent used a unit of product method.⁷⁴

⁷⁰R. P. Marple, "Depreciation Policy in Manufacturing Industries," N. A. C. A. Bulletin, May 1, 1936.

⁷¹Ibid., p. 1054.

⁷²Ibid., p. 1955.

⁷³Ibid., p. 1059.

⁷⁴Finley, op. cit., p. 11.

Despite accounting conventions, however, plant and equipment may be written up and down so that depreciation expense, even though straight-line depreciation is used, may be made to vary. Since the price level, sales, and production tend to vary together, this result may accomplish in a roundabout way what the units of product method or the working hours method accomplish directly. A study made by Fabricant of 208 large industrial concerns (mining and manufacturing chiefly, with a few from trade, construction and service) covering the years 1925-34, inclusive, throws some light on the prevalence of the practice of writeups and writedowns.⁷⁵ The companies were chosen at random from the file of SEC reports of the New York Stock Exchange. A summary of the results is given in Table 17.

That the writeups and writedowns tend to follow a cyclical pattern may be seen by reference to Table 18.

Do writeups and writedowns typically affect the amount of the depreciation expense? A study by Vatter in 1937 of 184 corporations⁷⁶ covering approximately the same period (1927-1935) as the study of Fabricant partially answers this question. Data for this study was taken from Poor's, Moody's, or Standard's Corporation Reports.⁷⁷

⁷⁵ Solomon Fabricant, "Revaluations of Fixed Assets," National Bureau of Economic Research Bulletin No. 62, p. 2.

⁷⁶ Vatter, op. cit., p. 131.

⁷⁷ Ibid., p. 127.

TABLE 17
NUMBER OF CORPORATIONS REPORTING
REVALUATIONS OF FIXED ASSETS
1925-1934*

Period During Which Incorporated	Number of Corporations in Sample	Corporations Reporting Revaluations		Per Cent of Total
		Number		
Before 1901	33	24		73
1901-1914	47	30		64
1915-1920	57	49		86
1921-1924	16	13		81
1925-1934	55	41		75
Totals	208	157		75

*Source: Solomon Fabricant, "Revaluation of Fixed Assets, 1925-1934" National Bureau of Economic Research Bulletin No. 62, p. 2.

TABLE 18
AMOUNT OF WRITE-UPS AND WRITE-DOWNS
PROPERTY, PLANT, AND EQUIPMENT
1925-1934^a
(THOUSANDS OF DOLLARS)

Year	Write-ups	Write-downs	Net Write-ups ^b
1925	10,254	12,495	(2,241)
1926	6,614	24,008	(17,394)
1927	15,980	10,471	5,509
1928	24,086	21,474	2,612
1929	11,426	10,171	1,255
1930	12,315	7,630	4,685
1931	5,343	96,698	(91,355)
1932	...	236,263	(236,263)
1933	...	60,984	(60,984)
1934	77	59,730	(59,633)

^aSource: Solomon Fabricant, "Revaluation of Fixed Assets, 1925-1934," National Bureau of Economic Research Bulletin No. 62, p. 6.

^bNote: () Indicates net write-downs.

concerning the effect of revaluation on depreciation charges, Vatter says: "One item of special interest is the effect of revaluation upon depreciation charges. Wherever downward revaluations of considerable amount were actually reported by the management, they were accompanied by reductions in depreciation charges."⁷⁸ Furthermore, Vatter found that: "Strict straight-line cost methods of depreciation computation, if they ever were used by a substantial majority of industrial corporations, seem, in spite of published statements of policy indicating the use of such methods, to have been largely abandoned."⁷⁹

Another piece of indirect evidence on the cyclical variation of depreciation expense is presented by Mack,⁸⁰ based on one of Fabricant's studies. Fabricant estimated the amount of annual depreciation by dividing the total output of capital goods into classes and by applying the appropriate depreciation rates to those assets. When these estimates are compared with the amount of depreciation built up from income records, the second set of estimates is found to bear a varying ratio to the first set and this variation follows a cyclical pattern. Mack's results are presented in Table 19. She concludes that:

⁷⁸Ibid., p. 134.

⁷⁹Ibid., p. 145.

⁸⁰Ruth P. Mack, The Flow of Funds and Consumer Purchasing Power (New York: Columbia University Press, 1941), pp. 233 f.

"The behavior of these ratios would suggest that in depression years companies were taking less depreciation as an expense deduction than they presumably would have taken had a constant rate been applied to assets in their possession and not yet fully depreciated."⁸¹

TABLE 19

RATIO OF DEPRECIATION CHARGES ESTIMATED FROM
INCOME ACCOUNTS TO THOSE ESTIMATED
FROM OUTPUT OF CAPITAL GOODS*

1919	1920	1921	1922	1923	1924
85.4	81.1	77.8	83.6	83.0	82.0
1925	1926	1927	1928	1929	1930
83.0	88.2	84.5	86.0	87.4	85.0
1931	1932	1933	1934	1935	..
84.5	82.1	82.8	84.3	86.3	..

*Source: Ruth P. Mack, The Flow of Funds and Consumer Purchasing Power (New York: Columbia University Press, 1941), p. 234.

Quantitative difference between historical cost depreciation and depreciation based on current costs. --The Department of Commerce in computing national income does not make an adjustment for depreciation comparable to the inventory valuation adjustment. A number of approximations of the difference between historical cost depreciation

⁸¹ Ibid., p. 234.

and depreciation on replacement costs have been made, however.

The most comprehensive of these estimates is that of Goldsmith presented in Table 20. Fabricant's pioneering study is presented in Table 21. It will be noted that the two are not in complete accord. Goldsmith gives the availability of better indices of producers' goods at the time of his own study as one of the reasons for not using Fabricant's figures for the years 1919-1935.⁸²

TABLE 20
CORPORATE DEPRECIATION ADJUSTMENT 1897 TO 1949
EXCLUSIVE OF TRANSPORTATION AND PUBLIC UTILITIES*
(MILLIONS OF DOLLARS)

Year	Estimated Depreciation Original Cost	Estimated Depreciation Current Cost	Excess of Current Over Original Cost Depreciation
	(1)	(2)	(3)
1897	297	274	-23
1898	322	318	-4
1899	348	362	14
1900	381	407	26
1901	410	432	22
1902	444	469	25
1903	483	505	22
1904	526	555	29
1905	574	617	43
1906	625	685	60
1907	681	767	86
1908	735	797	62
1909	796	877	81
1910	840	931	91
1911	883	1003	120
1912	937	1059	122

⁸²Raymond W. Goldsmith, A Study of Saving in the United States, (Princeton: Princeton University Press, 1955), II, 544.

TABLE 20--Continued

Year	Estimated Depreciation Original Cost	Estimated Depreciation Current Cost	Excess of Current Over Original Cost Depreciation
	(1)	(2)	(3)
1913	1000	995	-5
1914	1069	1048	-21
1915	1145	1168	23
1916	1544	1785	241
1917	1801	2434	633
1918	2333	3674	1341
1919	1989	3371	1382
1920	2193	4024	1831
1921	2339	3512	1173
1922	2660	3419	759
1923	2712	3626	914
1924	2824	3692	868
1925	2895	3745	850
1926	3270	4176	906
1927	3346	4177	831
1928	3597	4413	816
1929	3871	4732	861
1930	3986	4530	544
1931	4003	4259	261
1932	3693	5578	-117
1933	3496	3394	-104
1934	3362	3561	203
1935	3352	3577	230
1936	3286	3511	230
1937	3342	3819	488
1938	3352	3800	458
1939	3443	3895	462
1940	3520	4037	528
1941	3765	4487	734
1942	3914	4868	966
1943	3916	4913	997
1944	3950	4938	988
1945	3977	5003	1026
1946	4199	5729	1530
1947	5220	7897	2677
1948	6150	9418	3268
1949	6750	9668	3018

^aSource: Raymond W. Goldsmith, A Study of Saving in the United States (Princeton: Princeton University Press, 1955), I, 955.

TABLE 21

DEPRECIATION CHARGES EXPRESSED IN TERMS OF ORIGINAL
 COST AND REPRODUCTION COST, 1919-1935*
 ALL CORPORATIONS IN THE UNITED STATES
 (MILLIONS OF DOLLARS)

Year	Depreciation Original Cost	Depreciation Reproduction Cost	Excess of Current Over Original Cost
1919	1620	2620	1000
1920	1940	3330	1390
1921	2200	2770	570
1922	2490	2780	290
1923	2620	3260	640
1924	2700	3190	490
1925	2860	3250	390
1926	3270	3670	400
1927	3350	3740	390
1928	3600	3890	290
1929	3870	4250	380
1930	3990	4180	190
1931	4000	3920	-80
1932	3690	3240	-450
1933	3500	3110	-390
1934	3360	3300	-60
1935	3420	3410	-10

*Source: Solomon Fabricant, "On the Treatment of Corporate Savings in the Measurement of National Income," Studies in Income and Wealth, I (New York: National Bureau of Economic Research, 1937), 129.

In addition to the estimates of Fabricant and Goldsmith a number of more limited estimates of the difference in historical and current cost depreciation have been made. Slichter estimated that profits were overstated due to inadequate depreciation by one and

three-tenths billion dollars for 1946 and one billion dollars for 1947 and for 1948.⁸³ Brown estimated that historic cost depreciation would have had to be increased from two to two and one-half billion dollars per year for the years 1948 to 1951 to bring it up to replacement cost depreciation.⁸⁴

A number of summary statements comparing totals of historic cost and replacement cost for a number of years may be found. Goldsmith estimates that over the period studied (1897-1949) capital consumption allowances were \$89 billion, or fifteen per cent, higher on a replacement cost basis.⁸⁵ Terborgh says that in only two years from 1910-1953 was replacement cost less than original cost.⁸⁶ According to Table 20 Goldsmith shows this to be true also for 1913 and 1914. Gaston's statement, "If replacement-cost depreciation were used, profits would have been reduced in every year from 1937 to the present,"⁸⁷ is thus in harmony with the findings of both Terborgh and Goldsmith. Goldsmith found that the average yearly adjustment for depreciation, ignoring signs, is about \$600 million compared to

⁸³U. S. Congress, Profits, op. cit., Table XVI, p. 175.

⁸⁴Brown, op. cit., p. 28.

⁸⁵Goldsmith, op. cit., Vol. I, p. 31.

⁸⁶Realistic Depreciation Policy, op. cit., p. 142.

⁸⁷Gaston, op. cit., p. 15.

the inventory adjustment of \$1,000 million.⁸⁸

Direct Effects of Depreciation Accounting
on the Inducement to Invest

Accelerated depreciation as an inducement to invest. --To date the discussion has been confined to the effect of depreciation accounting on the inducement to invest through its effects on the amount of profit reported. The inducement to invest is thus affected indirectly: Depreciation affects the amount of reported profit which is considered an important factor, if not the important factor in investment decisions. Aside from this indirect effect, depreciation accounting is also presumed to affect investment decisions more directly. Gaston, for example, states: "The importance of a proper policy of depreciation is intimately connected with the investment policies of business firms and with the repercussions of the investment policy upon the economy as a whole. . . ."⁸⁹

In this connection straight-line depreciation, particularly, has come in for severe criticism. The value of the services furnished by fixed assets becomes less as the assets become older.⁹⁰ Terborgh

⁸⁸ Goldsmith, op. cit., Vol. II, p. 543.

⁸⁹ Gaston, op. cit., p. 29.

⁹⁰ This argument adopts the "impaired serviceableness" concept of depreciation: see The controversy over the nature of depreciation, supra.

states that "rising operating costs, impaired service quality or adequacy, and improved alternatives--combine to reduce the value of the service as the assets age."⁹¹ Straight-line depreciation, therefore, from this point of view tends to undercharge depreciation in the early years of an asset and overcharge it in the later years compared with the "ideal" method. Terborgh states this proposition as follows: "Straight-line depreciation typically understates the consumption of capital goods in the early years of their lives and overstates it during the later years. . . ."⁹²

Furthermore, the adherents of this viewpoint believe that the empirical evidence is sufficient to charge depreciation on the basis of this decreased serviceability and thus they attempt to undermine one of the reasons given for the preference for straight-line depreciation accounting--i.e., the experience in estimating use life in time periods. Terborgh says: ". . . A projection of constantly declining service values with age is sufficiently realistic for most types of capital goods to serve as the basis for some significant deductions as to the probable course of capital erosion. . . ."⁹³ He believes that a "realistic allocation procedure should get rid of at least one-half of the initial value

⁹¹ Realistic Depreciation Policy, op. cit., p. 33.

⁹² Ibid., p. 16.

⁹³ Ibid., p. 35.

over the first third of the service life and at least two-thirds over the first half. . . ."94

Grant and Norton advocate a declining balance method using a rate 2.5 times the appropriate rate under the straight-line group method as corresponding "to the objective that the authors have suggested as appropriate for many economy studies."⁹⁵ This method "will write off about half of the cost of a group of assets in the first quarter of the average service life and about three-fourths of the cost in the first half of the average life."⁹⁶

As contrasted with the arguments that depreciation charges should be based on replacement cost, or that depreciation expense should vary with output, thereby stabilizing reported profits before tax, and hence, investment expenditures, these accelerated methods would speed up the process of depreciation accrual. Furthermore, it is believed "quite possible that the use of accelerated depreciation would tend to make firms replace their old equipment sooner than they would otherwise. . . ."⁹⁷ Thus accelerated depreciation is thought to affect investment decisions directly.

⁹⁴ Ibid., p. 47.

⁹⁵ Grant and Norton, op. cit., p. 312.

⁹⁶ Ibid.

⁹⁷ Gaston, op. cit., p. 25.

While it is admitted that "from the viewpoint of economic analysis, the fact that past investment has not been fully depreciated is, of course, irrelevant to replacement decisions,"⁹⁸ it is nevertheless alleged by the advocates of accelerated depreciation methods that depreciation accounting does actually affect investment decisions. As can be seen by the following typical statement, the argument is one pertaining to long-term growth more than to cyclical fluctuations:

Only through the rapid replacement of equipment is it possible for industry to take advantage of scientific and technical progress. If improvement in industrial equipment were not put into place until the old equipment were fully depreciated, there would be a sizable lag between technological progress and the general benefits to be derived from that progress. . . .

Reasons given for accelerated depreciation being a stimulant

to investment. --One reason given for accelerated depreciation being a stimulant to investment is that "depreciation is normally the major source of business investment funds."¹⁰⁰ Depreciation accounting, furthermore, seems to be used in some companies as a partial substitute for financial budgeting. Grant and Norton point out this tendency as follows: "In many manufacturing businesses, both large and small,

⁹⁸ Michael Gort, "The Planning of Investment: A Study of Capital Budgeting in the Electric-Power Industry. II," The Journal of Business, July, 1951, p. 196.

⁹⁹ Gaston, op. cit., pp. 31 and 33.

¹⁰⁰ Terborgh, Realistic Depreciation Policy, op. cit., p. 4.

budget policies operate so that under ordinary circumstances the funds made available for acquisition of new fixed assets for all purposes (replacement, plant modernization, plant expansion) are limited to an amount of money equal to the current depreciation charge on the books of account. . . ." ¹⁰¹

The second reason given by those who argue that depreciation accounting directly affects investment decisions is the reluctance of the businessman to "take a loss" by writing off an undepreciated asset. Katona speaks of this reluctance as follows: "It appears that replacing a machine that is not yet written off is an especially difficult decision, that is, one that requires compelling reasons." ¹⁰² Grant and Norton also emphasize that "there is no doubt that the high book value of old assets often operates as a deterrent to economical retirement. . . ." ¹⁰³

At least one accountant concurs in this belief:

When the question arises as to the advisability of discarding an old, but still usable, machine, and substituting a newer model, one faces the necessity of writing off the book value of the obsolete machine. It is always disagreeable to write off an asset. . .

¹⁰⁴

¹⁰¹ Grant and Norton, op. cit., p. 328.

¹⁰² George Katona, Psychological Analysis of Economic Behavior (New York: McGraw-Hill Book Company, Inc., 1951), pp. 244 f.

¹⁰³ Grant and Norton, op. cit., p. 311.

¹⁰⁴ Henry Rand Hatfield, "Replacement and Book Value," The Accounting Review, January, 1944, p. 66.

Summary of Chapter

The nature of depreciation and the purpose of depreciation accounting have been subjects of controversy for decades. Although there are many facets to these controversies, most of the argument has been over the question as to whether depreciation accounting should be concerned with the provision for the replacement of the asset when its utility to the business has been exhausted, or with the amortization of a past cost. Over the years, replacement cost advocates have used three arguments for the first point of view: (1) depreciation on the basis of replacement cost tends to maintain the productive capacity of the business; (2) provision should be made to replace old equipment with equipment that will enable earning power to be maintained; and (3) since replacement costs are current, they are the correct costs to match against current dollars of revenue.

The amortization-of-cost adherents are divided into two schools of thought. Depreciation should be measured in the same dollars as those originally invested. This has been the traditional accounting point of view. The advocates of the second school of thought agree that the purpose of depreciation accounting is the writing off of the past cost of the old equipment but insist that the historic cost should be converted into dollars equivalent in purchasing power to those originally invested before deducting it from revenue in order to determine net income. There is further disagreement as to the index to be used in converting

the historical cost dollars to dollars of equivalent purchasing power. Should the index be one of generalized purchasing power, or a specific index computed on the basis of the changes in the price of the asset that is to be replaced?

While the controversy over the depreciation base is similar to the Lifo versus Fifo argument with respect to inventories, there are also differences. These differences revolve around the fact that fixed assets last for relatively long periods of time and the allocation of depreciation expense through time is thought to have cyclical and long range ramifications. The critics of accounting methods single out especially the straight-line method of allocation and insist that depreciation should vary with income or with production in order to level out reported income, and hence, to stabilize investment expenditures.

While studies have revealed that the straight-line method is the predominant method in use, other studies have cast doubt on its rigid application throughout all phases of the business cycle. Although the U. S. Department of Commerce does not make use of an adjustment for depreciation as it does for inventories, other estimates of the "misstatement" of depreciation expense have been made. These estimates have shown that the "historic cost error" due to depreciation, while smaller on an average than in the case of inventories, is still sizable.

In addition to the effect on investment decisions through the computation of net income, depreciation accounting--especially

straight-line depreciation accounting--is thought to affect investment more directly. Relying on the impaired serviceableness concept of depreciation, these critics insist that depreciation accounting should be accelerated. The failure to do so is thought to retard the investment in improved facilities and is thus thought to impede long term economic growth. While it is admitted by many of these critics that depreciation accounting should not influence investment in improved assets, it is thought to do so. The reluctance of the businessman to write off assets not fully depreciated on the books and the tendency to limit investment expenditures to the amount of the current depreciation charges are the two chief reasons given for this belief.

A Tentative Conclusion on Accounting Methodology
Via Investment Decision As an Accentuating
Factor in Business Fluctuations

Thus, (1) accepting the thesis that business fluctuations are tied primarily to private business investment expenditures; (2) abstracting away: (a) technological change as a factor in investment decisions, and (b) the income tax structure; and (3) assuming: (a) that businessmen attempt to invest in such a way as to maximize expected business profits, (b) that prospective business profits are judged by past profits as measured by accounting techniques, and (c) that, since accounting techniques--largely, inventory and depreciation accounting--overstate these profits on the upswing and understate them on the

downswing, thus leading the businessman to invest more on the upswing and less on the downswing than if these profits were stated on an "economic" basis, the result would seem to follow that accounting techniques accentuate business fluctuations. Certainly the theoretical framework is imposing.

Before it can be said with any degree of certainty, however, that accounting methodology does accentuate business fluctuations, via investment decisions, it is necessary to examine the assumptions and to replace the economy within the institutional framework from which it has been abstracted.

CHAPTER VI

SOME FURTHER CONSIDERATIONS OF THE DETERMINANTS OF BUSINESS INVESTMENT DECISIONS

In the preceding chapters the following assumptions as to businessmen's behavior in making investment decisions have been made: (1) that businessmen attempt to invest in such a way as to maximize expected profits; (2) that prospective profits are judged by past profits as measured by accounting techniques; and (3) that businessmen are "misled" by these accounting profits into investing in such a way as to accentuate the swings in business fluctuations. In the present chapter it is proposed to examine these assumptions carefully. In so far as it can be shown that these assumptions are not in conformity with reality, or that there are alternative assumptions that appear to fit the facts equally well, then the superstructure built up in the earlier chapters has no solid foundation.

Furthermore, in the discussion to date, changing technology as a factor in investment decisions has been largely neglected. Likewise, the fact that a large share of reported profits is siphoned away in the form of income taxes has been entirely ignored. Does the

dropping of these limiting conditions strengthen or weaken accounting profits as a factor in business investment decisions?

In the light of the more realistic environment presented in the current chapter, a further evaluation of accounting profits as a factor in investment decisions via the price of securities will also be made. In Chapter V the argument was presented that accelerated depreciation tends to encourage a high level of investment but no evidence was presented to substantiate this argument nor was any attempt made to see if there were counterarguments, or offsetting tendencies. In the present chapter an evaluation of this argument will be made.

A Reconsideration of Profit Maximization As
an Incentive in Investment Decisions

Alternatives and additions to profit maximization as the goal of economic endeavor in the large, widely-held corporation. --It has been recognized for some time that profit maximization in the large widely-held corporation with its separation of ownership and management is too simple for an adequate explanation of economic behavior. Dean points out this fact in these words:

A corporation is not single-minded. It is composed of groups and individuals whose interests conflict. The concept of management as arbiter among employees, customers, and stockholders can lead to capital-expenditure policies and commitments that stray from the directional beam of capital productivity. . . .¹

¹Joel Dean, "Measuring the Productivity of Capital," Harvard Business Review, January--February, 1954, p. 121.

The assumption of profit maximization is more valid where owner and entrepreneur are one.² "The small businessman, a term subsuming the four functions of the entrepreneur, manager, capitalist, and worker, is the protagonist featured in most of the traditional profit theories. . . ."³ However, where owner and entrepreneur are not one, "maximization of individual gain may take precedence over that of the income of the individual firm. . . ."⁴ Thus, there "is nothing in a policy of 'enlightened self-interest' which would require a manager to make the greatest possible profit for the stockholders. . . ."⁵ As long as there is enough profit made to satisfy the stockholders, then the management has a wide discretion as to its objectives.⁶

The market position of the firm is also a factor controlling the degree to which the profit motive can be ignored. Under non-competitive conditions the firm may show a satisfactory profit while allowing

²Robert A. Gordon, "Enterprise, Profits, and the Modern Corporation," Readings in the Theory of Income Distribution (Philadelphia: The Blakiston Company, 1946), p. 570.

³Peter L. Bernstein, "Profit Theory--Where Do We Go From Here?" The Quarterly Journal of Economics, August, 1953, p. 409.

⁴Gordon, op. cit., p. 570.

⁵M. W. Reder, "A Reconstruction of the Marginal Productivity Theory," The Journal of Political Economy, October, 1947, p. 453.

⁶Ibid.

considerable inefficiency. Reder stresses that it was the assumption of pure competition that gave profit maximization its a priori plausibility,⁷ and states that:

If there were keen competition, the management could not depart from the principle of profit maximization--at least for long. For any excess profits would be competed away by new firms who would drive down prices and compel the entrepreneur to keep total cost down to the minimum in order to avoid losses. Therefore, any departure from the principle of profit maximization would be speedily corrected by the forces of competition. . .⁸

Even where the desire for profits does predominate, the idea that the firm tries to maximize profits needs qualification. The critics of profit maximization have offered alternative and additional motives. The doctrine of "adequate", or "satisfactory", profits has been proposed as a substitute, especially in the larger, more mature, corporation. Gordon has said: ". . . I suspect that 'satisfactory profits', as vague as that criterion is, is frequently a more accurate description of the primary objective than 'maximum profits'. This is particularly likely to be true of mature, successful firms."⁹ Another researcher¹⁰ into

⁷Ibid., p. 454.

⁸Ibid., p. 453.

⁹R. A. Gordon, "Short-Period Price Determination in Theory and Practice," The American Economic Review, June, 1948, p. 271.

¹⁰Maybelle Kohl, The Role of Accounting in Pricing (Ann Arbor, Michigan: University Microfilms, 1954).

economic behavior relative to pricing the final product has said:

. . . All in all, however, everyone of the representatives expressed the desire to remain in business; their companies' policies are planned in respect to industrial security, and reputations are not risked for temporary gain. Cost, demand, competition, and other pricing factors are considered in the light of operating on a satisfactory basis, not necessarily an optimum so far as net profits are concerned. . . .¹¹

Dean¹² has given six reasons why corporations would want to limit profits: (1) to discourage potential competitors, (2) to woo the voting public and restrain the zeal of antitrusters, (3) to restrain wage demands of organized labor, (4) to maintain customer good will, (5) to keep control undiluted, and (6) to maintain pleasant working conditions.

The desire for secure profits, or "Maginot Line Building,"¹³ is ranked by some economists as being on a par with the desire to maximize profits. Concerning this motive one writer has said: "But there is another motive which cannot be so lightly dismissed, and which is probably of a similar order of magnitude as the desire for maximum profits: the desire for secure profits. . . ."¹⁴ Of course, this desire

¹¹ Ibid., p. 159.

¹² Joel Dean, Managerial Economics, (New York: Prentice-Hall, Inc., 1951), p. 29.

¹³ Keith Powlison, "The Profit Motive Compromised," Harvard Business Review, March, 1950, p. 105.

¹⁴ K. W. Rothschild, "Price Theory and Oligopoly," The Economic Journal, September, 1947, p. 308.

for secure profit can be integrated with profit maximization if we set the goal as long-run profit maximization. Dean¹⁵ states that his first four reasons why a company might want to limit profits "are reasons why the company as an entity wants to limit short-run profits in order to maximize profits in the long run. . . ."¹⁶

Machlup, a staunch defender of profit maximization, argues that the desire for secure profits can be integrated with the profit motive, while it may be that the demand for "position", as advocated by some writers, cannot: "There is much more justification in the demand for separating the firm's desire for 'position' from the objective of maximum profits if position is merely a matter of vanity and conceit and not a means of safeguarding profits. . . ."¹⁷ Machlup does, however, recognize that the desire for both position and for security are important:

. . . One can deal with these considerations equally well whether they are treated under the heading of a separate security motive or as additional points under the all-inclusive profit motive. The main thing is that they are treated; under what heading they are treated is irrelevant.¹⁸

¹⁵See Dean's six reasons why corporations might wish to limit profit, supra.

¹⁶Dean, op. cit., p. 29.

¹⁷Fritz Machlup, The Economics of Sellers' Competition (Baltimore: The Johns Hopkins Press, 1952), p. 427.

¹⁸Ibid.

In the large corporation the desire to maintain control may supersede the desire to make maximum profit. The desire to maintain control and thus to maximize personal gain, even at the expense of firm profits, has been pointed out by Cooper: ". . . After all, the entrepreneur is not interested in maximizing profits per se. It is his profits that he seeks to maximize. Loss of control in the pursuit of profits may succeed only in maximizing some one else's profits. . . ."¹⁹

Thus many of the critics of profit maximization have not tried to displace it as an explanation of economic behavior. It is conceded by most of the critics that the traditional hypothesis of profit maximization may be reasonable in some firms at some times. One writer has stated this fact as follows: ". . . All we are attempting to show is that there are alternative hypotheses which are plausible a priori and which, if investigated, might prove to be appropriate for many firms. . . ."²⁰

Many writers have stressed that the motive behind investment expenditures is not always that of profit, at least short-run profit. Dewing has said that: "throughout any study of expansion, it should be remembered that motives other than economic are at play; and the reasons for men's action within the whole sphere of economics can

¹⁹W. W. Cooper, "Theory of the Firm: Some Suggestions for Revision," The American Economic Review, December, 1949, p. 1207.

²⁰Reder, op. cit., p. 458.

seldom be reduced to rationalized conclusions directed only toward obtaining a profit. . . ."²¹ One student of the relationship of profits to new investment concluded that: ". . . Factors other than the amount or the rate of profit have been the major determinants of the level of capital expenditures of groups of companies in the same industry, and hence, of business as a whole. . . ."²² Dean states that the goal of "adequate profits" weakens profits as a determinant of investment expenditure, in these words: ". . . so long as the company is making adequate profits, the drive to have all capital expenditures selected on the basis of profit maximization is blunted."²³

Out of the various controversies over the motive of profit maximization certain tentative conclusions emerge:²⁴ (1) There is still considerable support among both scholars and business for the primacy of the profit motive; (2) there seems to be an increasing tendency for this motive to be translated into something longer run and broader and

²¹ Arthur Stone Dewing, The Financial Policy of Corporations (5th ed.; New York: The Ronald Press Company, 1953), II, 816.

²² Martin Taitel, Profits, Productive Activities and New Investment ("Temporary National Economic Committee Monograph No. 12"; Washington: U. S. Government Printing Office, 1941), p. XIX.

²³ Dean, Harvard Business Review, op. cit., p. 121.

²⁴ Addison Hickman, "Managerial Motivation and the Theory of the Firm." Papers and Proceedings of the American Economic Association, printed in The American Economic Review, May, 1955, p. 546.

less precisely defined than the basic concept; (3) other motivations of an economic character, such as preservation of the firm or maintenance of the size and position of the firm are held to be of major importance; (4) the so-called "non-economic" motivations are now taken much more seriously despite the evident difficulties involved in measurement. In summary, "the goal of profit-making, while still paramount, has been weakened in the large corporation. . . ."²⁵

The relative importance of the revenue versus the expense component of net profit in making investment decisions. --The large firm operating under non-competitive conditions may be more interested in strategy than in profit making. Dean points out that "actually in many cases money making is a secondary objective. Often the primary goal is strategic--to maintain or increase the company's share of the market, to achieve growth in sales volume or number of employees, or simply to build reputation and status. . . ."²⁶ While these semipecuniary motives have an indirect effect on profit, they cannot be evaluated with any precision.²⁷ This goal of "maximum volume" will rarely be

²⁵ Robert Aaron Gordon, Business Leadership in the Large Corporation (Washington: The Brookings Institution, 1945), p. 327.

²⁶ Dean, Harvard Business Review, op. cit., p. 121.

²⁷ Gordon, The American Economic Review, op. cit., pp. 269 f.

exactly the same as the aim of maximum profit.²⁸ The motivating force may be in the same direction and thus the two drives would actually reinforce each other "but it may also happen that increase in volume or the growth of one's firm is desired irrespective of its contribution to future profits. This would imply that striving toward larger volume may become an objective in itself. . . ."²⁹

Thus, even after conceding that the profit maximization assumption still has considerable validity, the relative importance of the positive component, sales, and the negative component, expenses, in the making of investment decisions must be considered. In so far as the sales component is controlling, the effect of accounting methodology on investment decisions is still further weakened since it was shown in Chapter III that it is the expense calculations and not the recording of sales or anticipated sales that are alleged to be misleading.³⁰

That the sales component is more important than expenses in determining investment decisions under non-competitive conditions has been demonstrated a priori by Buchanan. In the absence of technological

²⁸George Katona, Psychological Analysis of Economic Behavior (New York: McGraw-Hill Book Company, Inc., 1951), p. 203.

²⁹Ibid.

³⁰Some writers insist that costs are a big factor in the setting of price, which in turn would affect the number of units sold, and hence the total sales figure. This phase of the argument will be explored in Chapter VIII.

change, under conditions of imperfect competition it is the demand curve for the product that is most unknown. While the expenses cannot be estimated with absolute accuracy, they can be estimated with more accuracy than the sales revenue, or the demand curve. ". . . Hence sales anticipations, both for the coming period and for several periods forward, are likely more nearly to determine output plans and investment outlays than anything else. . . ."³¹ In order for expansion to take place, sales anticipations must already be so optimistic that additional facilities are needed. Unless some revenue will be sacrificed because of insufficient facilities, the added investment will not be required. However, in firms in imperfect competition, excess capacity is the rule rather than the exception.³² Therefore, concludes Buchanan: "In the absence of technological changes, market domination, trade position, and expansion per se are essentially a function of sales volume. . . ."³³

In pure competition, on the other hand, while the entrepreneur does not know his future prices, he does know the shape of his demand

³¹ Norman S. Buchanan, "Anticipations and Industrial Investment Decisions," Papers and Proceedings of the Fifty-fourth Annual Meeting of the American Economic Association, in The American Economic Review Supplement, March, 1942, p. 145.

³² Ibid., p. 144.

³³ Ibid., pp. 144 f.

curve, and he also knows that his gross income will be proportionate to his output, and, hence, is likely to busy himself with cost and output problems.³⁴ Therefore, in "the absence of technological improvements, the sensitivity of investment to price influences is a function of the degree of competition."³⁵ If one accepts this proposition, then the more nearly industries approach the competitive pattern, the more important do expense calculations become as a determinant of investment decisions. The more important that the expense component becomes the greater becomes the role played by accounting methods in investment decisions.

In order to determine the motivation behind investment decisions, a number of studies have been made. No one of these studies has been comprehensive; each has been more in the nature of a "pilot study". These studies will now be reviewed and the conclusions presented in order to see what is stressed by the businessmen who make investment decisions as being the dominant factors in these decisions.

In 1941 Ruth P. Mack³⁶ published the results of an extensive study of fifty-six³⁷ corporations covering eleven industries and including

³⁴Ibid., p. 145.

³⁵Ibid., p. 155.

³⁶Ruth P. Mack, The Flow of Funds and Consumer Purchasing Power (New York: Columbia University Press, 1941).

³⁷A list of these corporations is given, ibid., pp. 29-31.

some of the nation's industrial giants. In the course of her study Mack held interviews "with someone of at least vice presidential rank and frequently with several of the minor executives as well. . . ."³⁸ As a result of her study, Mack concluded:

. . . Except for brief periods of anticipation of perhaps a few months . . . company officials waited for sales to materialize and often for them to have materialized for some time, before risking capital investment. In so far, then, as the companies visited were in this respect typical of business as a whole, we might conclude that for the post 1933 period the causal relation between sales and capital purchases ran from the former to the latter. . . .³⁹

In the spring of 1950 a series of interviews was conducted by Franco Modigliani and members of the staff of the Merrill Foundation Project in "Expectations and Business Fluctuations."⁴⁰ These studies involved almost exclusively firms in the agricultural equipment industry and emphasized problems of capital expenditures and forward planning. These interviews were supplemented by interviews with executives in fifteen manufacturing corporations in the midwest and east in the winter and spring of 1951-52.⁴¹ The firms were the largest, or among the

³⁸Ibid., p. 212.

³⁹Ibid., p. 281.

⁴⁰Robert Eisner, "Interview and Other Survey Techniques and the Study of Investment," Unpublished manuscript, Northwestern University, April 5, 1954, p. 68.

⁴¹Ibid.

largest, in the agricultural equipment, shoe manufacturing, beer, container (paper and cardboard), steel, and rubber industries.⁴² Individuals interviewed "ranged from presidents, board chairmen, and executive vice-presidents to controllers, treasurers, production schedulers, and firm economists. . . ."⁴³ Firm documents and statistics were solicited and where obtained, were "subjected to a continuing analysis."⁴⁴ Eisner concluded that: "The estimate of future demand is certainly the most often cited determinant of the volume of capital expenditures."⁴⁵

In the summer of 1950 George Katona and James N. Morgan headed a personal interview study of 188 plants⁴⁶ located in Michigan. The study was sponsored by the Research Center of the University of Michigan. When the firm had its head office in Michigan, the top executive of the firm was interviewed. If the head office were not in Michigan, then the chief executive of the plant was interviewed, with other executives often being drawn into the discussion.⁴⁷ Public utilities,

⁴²Ibid.

⁴³Ibid.

⁴⁴Ibid.

⁴⁵Ibid., p. 84.

⁴⁶George Katona and James N. Morgan, "The Quantitative Study of Factors Determining Business Decisions," The Quarterly Journal of Economics, February, 1952, p. 70.

⁴⁷Ibid.

mining firms, the large automobile industries, and manufacturing plants with less than twelve employees were excluded.⁴⁸ A large part of the sample was made up of industries prominent in Michigan: metal products, furniture, and chemicals.⁴⁹ It was found that of the 188 respondents, 103 had expanded their plant or equipment "during the last few years prior to the interview,"⁵⁰ and 89 were found to have plans for contemplated expansion. The interviewees were asked the direct question as to why they had expanded or contemplated expansion. No attempt was made by the interviewers to clarify the responses since this was "deemed highly suggestive."⁵¹ Table 22 gives a tabulation of the responses. It should be noted that current demand and future demand constituted sixty-nine per cent of the reasons given for past expansion and fifty-eight per cent of the reasons given for contemplated expansion.

Michael Gort conducted interviews during the spring and summer of 1950 with officials of twenty-five electric utilities located in the Northeast, East Central, and North Central regions (according to the Federal Power Commission classification of companies).⁵² Forty

⁴⁸Ibid., p. 69.

⁴⁹Ibid.

⁵⁰Ibid., p. 83.

⁵¹Ibid.

⁵²Michael Gort, "The Planning of Investment: A Study of Capital Budgeting in the Electric-Power Industry. I," The Journal of Business, April, 1951, pp. 79 f.

TABLE 22

QUANTIFICATION OF REASONS GIVEN FOR
EXPANSION OF MANUFACTURING PLANT*

Motivating Factors	Percentage Distribution of Firms	
	Recent Past Expansion	Contemplated Expansion
Current demand and current orders	61	45
Policy of expanding	4	14
Cost or efficiency considerations	17	20
Future demand	8	13
Change of product	10	8
Total	100	100
Number of firms	103	89

*Source: George Katona and James N. Morgan, "The Quantitative Study of Factors Determining Business Decisions," The Quarterly Journal of Economics, February, 1952, p. 84.

officials were interviewed, including presidents, chairmen of boards, vice presidents, assistants to the president, assistant controller, chief planning officers on the engineering level, budget officers, staff engineers, and accountants.⁵³ The companies accounted for roughly two-thirds of the generating capacity of private utilities in the three regions and close to one-half of that for the whole country.⁵⁴ Gort supplemented

⁵³Ibid., p. 80.

⁵⁴Ibid.

his interviews with an examination of documentary records. Access to unpublished records was granted in the case of fourteen companies.⁵⁵ Gort concluded that: "The most important single factor affecting decisions to spend on plant and equipment in the electric industry is expected demand. . . ."⁵⁶

P. W. S. Andrews and Elizabeth Brunner have made a study of the capital development of the United Steel Companies, Ltd.⁵⁷ This study consisted of a series of repeated interviews and an examination of firm documents. The authors concluded: ". . . If one had to plump for the most important single factor in the determination of the current level of capital expenditure in individual businesses--and, therefore, the one which should predominate in any general analysis--the level of demand appears to be the one which should be selected. . . ."⁵⁸

Irwin Friend and Jean Bronfenbrenner made a study of 305 manufacturing firms whose actual expenditures on plant and equipment differed by more than 25 per cent from anticipated outlays reported by

⁵⁵Ibid.

⁵⁶Michael Gort, "The Planning of Investment: A Study of Capital Budgeting in the Electric-Power Industry. II," The Journal of Business, July, 1951, p. 181.

⁵⁷p. W. S. Andrews and Elizabeth Brunner, Capital Development in Steel (Oxford: The Alden Press, 1951).

⁵⁸Ibid., p. 359.

the business between mid-January and mid-March, 1949.⁵⁹ The results of their study are tabulated in Table 23. The "sales outlook" was the principal reason given by 34.1 per cent of the firms who decided to decrease capital outlays whereas only 12.1 per cent gave "net earnings after taxes" as a reason. While only 10.4 per cent of the firms who decided to increase capital outlays gave sales as the principal reason, the proportion giving net earnings as a reason was still smaller, 5.2 per cent. The authors draw certain interesting conclusions: (1) Only the smallest firms mentioned changes in the earnings outlook as a significant factor in reducing planned outlays;⁶⁰ (2) "It appears that when the competitive situation is an important factor, the investment response to a decline in sales is opposite in direction to that which ordinarily occurs;"⁶¹ (3) "Movements in earnings, also, were found to contribute little toward the explanation of discrepancies between actual and anticipated expenditures."⁶²

In summary, Mack, together with Katona and Morgan, have found current demand to be the dominant factor in determining

⁵⁹ Irwin Friend and Jean Bronfenbrenner, "Business Investment Programs and Their Realization," The Survey of Current Business, December, 1950, p. 19.

⁶⁰ Ibid., p. 20.

⁶¹ Ibid., p. 21.

⁶² Ibid., p. 22.

TABLE 23

FREQUENCY DISTRIBUTION OF EXPLANATORY FACTORS
 FOR CHANGES IN INVESTMENT PLANS
 305 MANUFACTURING FIRMS, 1949*

Factor	Principal Reason for Change			
	Increased Outlays		Decreased Outlays	
	Number	Per Cent	Number	Per Cent
Changes from expectations in:				
Sales outlook	18	10.4	45	34.1
Current expenses	3	1.7	0	..
Net earnings (after taxes) .	9	5.2	16	12.1
Working capital requirements	3	1.7	12	9.1
Plant and equipment supply situation	29	16.8	13	9.8
Plant and equipment costs .	22	12.7	5	3.8
Availability and cost of debt financing	0	..	2	1.5
Availability and cost of equity capital	2	1.2	0	..
Competitive conditions . . .	12	6.9	0	..
New products	11	6.4	1	.8
Availability of labor and materials	0	..	6	4.5
Technology	7	4.0	4	3.0
Timing	4	2.3	10	7.6
Routine under- or over- estimate	27	15.6	5	3.8
Miscellaneous	26	15.0	13	9.8
All factors	173	100.0	132	100.0

*Source: Irwin Friend and Jean Bronfenbrenner, "Business Investment Programs and Their Realization," The Survey of Current Business, December, 1950, p. 19.

investment decisions. Eisner and Gort found "future demand" and "expected demand" to be the determining factor while Andrews and Brunner

stressed the "level of demand". In their post mortem study as to why planned investment expenditures were changed, Friend and Bronfenbrenner found the "sales outlook" to be the dominant factor for decreasing expenditures relative to planned expenditures. While "sales outlook" was not the most frequently mentioned reason for increasing expenditures over the estimates, it was still given twice as frequently as "net earnings after taxes". "Net earnings after taxes" was mentioned as a significant reason for reducing actual expenditures under planned expenditures only in case of the smallest firms. Thus, the conclusions reached by these inquirers into the determinants of investment decisions are consistent in assigning present or prospective sales as being the primary determinant of investment decisions. Thus the empirical evidence substantiates Buchanan's postulate that expansion is a function of sales volume.⁶³

It may be true that in the mind of the businessman the amount of sales is closely associated with the amount of short-run profit. He may have in mind the breakeven chart of his business even when emphasizing sales as the immediate determinant of investment decisions. The studies, however, do not throw any light on the extent to which the concepts of sales and profit are associated or differentiated in the thinking of the businessman when making investment expenditures.

⁶³See reasoning of Buchanan, supra.

If the amount of sales and profit are not closely associated, in so far as these findings are representative of business investment behavior, profit becomes a rather roundabout determinant of investment decisions. Concerning the subtleness of the profit motive in making investment expenditures, Gort has said:

Both profit considerations and financial factors reflect themselves in a rather subtle way in a marginal area of investment decisions, consisting of optional construction, replacement and maintenance expenditures, the choice of satisfactory reserve capacity, and others. When earnings and the supply of funds decline, there is a tendency toward economy-mindedness, the planning horizon shortens, and tests for approval of capital expenditures become more rigid.⁶⁴

Cash position as a factor in investment decisions. --Some writers believe that the cash position of a company is an important factor in its investment decisions. In times of depression it is reasoned that business will free cash from inventories and accounts receivable as well as from fixed assets. Hence, it may be in a stronger cash position during the depression than during prosperity. In so far as investment is controlled by the cash position instead of by some other incentives, then this would tend to make the investment policy of these firms countercyclical. In order to establish the validity of this argument, it is necessary to ascertain: (1) if companies do have larger cash balances during depressed years than during prosperous

⁶⁴Gort, The Journal of Business, July, 1951, pp. cit., p. 201.

ones, and (2) if the more liquid position is a factor in the making of investment expenditures.

Lutz⁶⁵ made a study of the cash balances of seventy-eight large⁶⁶ manufacturing corporations and seventy-three medium-sized and small⁶⁷ manufacturing corporations from 1914 to 1943. He found that during the thirties the large manufacturing corporations held "free"⁶⁸ cash and that the "movement of this inactive money shows an inverse correlation with the profit rate of the large companies."⁶⁹ For the medium-sized and small corporations, on the other hand, the increase in free cash was small.⁷⁰ Lutz concluded that: "The phenomenon of 'inactive' or 'hoarded' corporate cash in the thirties is thus mainly one of large manufacturing corporations."⁷¹

⁶⁵ Friedrich A. Lutz, Corporate Cash Balances 1914-43 (New York: National Bureau of Economic Research, 1945).

⁶⁶ Lutz defines a large corporation as one with over \$5 million total assets, ibid., p. 2.

⁶⁷ Medium-sized and small companies, \$50 thousand to \$5 million total assets, ibid.

⁶⁸i.e., "cash . . . that is not tied up by the volume of transactions." Ibid., p. 5.

⁶⁹Ibid.

⁷⁰Ibid., p. 7.

⁷¹Ibid.

Sloan and associates published a study⁷² in 1936 of "135 leading industrial concerns"⁷³ covering nine industries and with a sprinkling of corporations from other industries. It was assumed that a major cycle began in 1922 and ended in 1933 and that another major cycle began in 1934 and was still in progress at the time that the results of the study were published.⁷⁴ One of the findings of this study is stated as follows:

Industry's maintenance of such a strong cash position during the 1930-1933 depression phase of the cycle is truly remarkable. At the end of the cycle, despite the enormous losses which had been sustained, and despite the fact that during the three years 1931-1933 security owners received cash disbursements of over a billion dollars in excess of the net available for the common in those three years--despite these facts, our 135 corporations had 710 millions more cash in their coffers at the end of the cycle than at the beginning.⁷⁵

In so far then as cash is a determining factor in investment decisions, the large corporation is the only one that could take advantage of a countercyclical investment policy, and hence, this would be a factor that would tend to make accounting methods as an accentuating factor more applicable to the smaller firm than to the larger one.

⁷² Laurence H. Sloan and Associates, Two Cycles of Corporation Profits (New York: Harper and Brothers Publishers, 1936).

⁷³ Ibid., p. 25. A list of these corporations may be found, pp. 423-428.

⁷⁴ Ibid., p. 1.

⁷⁵ Ibid., p. 40.

Have the investigators studying the determinants of investment decisions rated cash position as an important factor? Concerning the supply of money available as a determinant of investment expenditures Eisner said: "The overwhelming weight of remarks by business executives indicates that questions of supply of money capital do not appear to them to be crucial in capital expenditure decisions. 'We'll get the money if we need it' is a common refrain. . . ." ⁷⁶ Another pair of investigators concluded: "Provided that a business is reasonably prosperous, . . . the limits imposed by the availability of financial resources have no practical significance." ⁷⁷ Gort also concluded: "Few situations were observed where specific projects were postponed because capital could not be obtained. . . ." ⁷⁸

Thus on the basis of the evidence, one must conclude that, although corporations, especially large corporations, do have more "free" cash during depressions and less during prosperity, this does not appear to be a particularly important factor in investment decisions.

Conclusions on profit maximization as the primary determinant of investment decisions. -- In the large, widely-held corporation the directness of the profit motive has been blunted for the following

⁷⁶Eisner, op. cit., p. 89.

⁷⁷Andrews and Brunner, op. cit., p. 349.

⁷⁸Gort, The Journal of Business, July, 1951, p. 200.

reasons:

(1) Personal ambition may be more important than profit maximization in the firm with separation of management and ownership.

(2) Large profits in the large corporation have become unpopular in recent years.

(3) Size and sales volume may become the primary, short-run objectives even though profit may be the ultimate goal.

In the smaller, more closely held firm, on the other hand, the non-pecuniary and the semipecuniary motives are weaker and thus the theory of expansion in response to profit is more direct.

Thus even though the incentive of profit maximization has not been abandoned even in the large corporation, it has been weakened as a determinant of investment decisions, no matter how the profits are measured--whether by accounting methods, or by "economic" criteria. This is especially true when one takes as a goal the maximization of long-run profits. Since the cycle is a short-run phenomena, and since accounting is concerned with short-run profit measurement, the theory that the accountants' "misstatement" of profit accentuates the cycle is weakened when one accepts maximization of profits in the long-run as the norm of economic behavior.

Ex-Post Business Profits Versus Expected
Business Profits As a Factor in
Investment Decisions

Those who argue that accounting methodology unduly influences business fluctuations through its effect on investment decisions support

the argument by emphasizing realized income as being of a high relative importance in these investment decisions.⁷⁹ Writers with opinions on this subject, however, are not all in agreement with this point of view. Mitchell emphasized expected profits as the motivating force as follows:

The profits which count in determining solvency are not merely the profits or losses realized in the recent past, but also profits anticipated in the near future. Indeed, business looks forward more than it looks backward. . . . And anticipated profits play the decisive role in fixing the direction to be taken by business expansion. It is the enterprise with faith in their future which finance extensions out of their own funds or out of funds borrowed from investors. . . .⁸⁰

Abramovitz expresses a similar point of view:

. . . Decisions to purchase or produce plant and durable equipment over and above the quantity required to replace plant and equipment retired depend upon the same set of considerations as influences purchases to offset retirements. Both depend upon estimates of the profitability of the capital in the future, not simply on the operations of the current period. . . .⁸¹

Still other writers have no decided opinion: "The role played by ex-post business income as a factor influencing managerial decisions has not

⁷⁹See Chapter II, The tendency to measure prospective profits by realized profits under "The Role of Accounting Profits in the Investment Process."

⁸⁰Wesley C. Mitchell, Business Cycles: The Problem and Its Setting (New York: National Bureau of Economic Research, 1927), p. 106.

⁸¹Moses Abramovitz, Inventories and Business Cycles (New York: National Bureau of Economic Research, Inc., 1950), p. 480.

been agreed upon by either economists or businessmen. . . ."⁸²

A consideration of the evidence on ex-post business profits as a primary determinant of investment decisions. --Heller and his colleagues at the University of Minnesota carried out a field study on investment decisions in thirteen of the leading manufacturing firms with headquarters in the Twin Cities Area.⁸³ They relied chiefly on twenty-five interviews of from two to three hours each⁸⁴ with key decision makers in exploring the anatomy of decisions to invest in plant and equipment. The companies, while the largest in the area, were medium-sized if looked at nationally, the number of employees varying from three hundred to twelve thousand and net worth ranging up to \$93 million. In growth pattern the companies ranged all the way from two in the stagnant flour milling and grain handling business to five that were among the outstanding growth companies of the United States.⁸⁵

The authors of The Minneapolis Project conclude: "As other

⁸²Charles E. Johnson, "A Case Against the Idea of an All-Purpose Concept of Business Income," The Accounting Review, April, 1954, p. 238.

⁸³Arthur Upgren, Frank Boddy, Carl Nelson, and Walter Heller, The Minneapolis Project--A Pilot Study of Local Capital Formation (Minneapolis: Investors' Diversified Services, Inc., July 21, 1950), Appendix A, p. 1.

⁸⁴Ibid., Appendix B, p. 1.

⁸⁵Ibid., Appendix A, p. 2.

studies, the Minneapolis Project confirms the vital importance of profits as the lubricant for private capital investment--both as a lure for taking risks and as a source of funds for managements which don't like to use outside funds.⁸⁶ One of the authors of the results of this study asks the following questions: ". . . Does the decision maker respond mainly to realized or to anticipated profits? Do changes in realized profits lead, or do they lag behind, changes in capital-spending programs? . . ."⁸⁷ The following answer is given to this question: ". . . The impressionistic answer we got in our survey is that they lead, for forecasted profits are only slightly adjusted projections of the profits realized in the immediate past."⁸⁸

Ezekiel made a statistical study of the relationship between past and current profits and subsequent investment in plant and equipment based on corporate profits before income tax for the years 1921 to 1940.⁸⁹ He concluded: ". . . The most significant relation discovered was between corporate profits in one year and plant and equipment investment in the following year. About four-fifths of the

⁸⁶Ibid., p. 19.

⁸⁷Walter W. Heller, "The Anatomy of Investment Decisions," Harvard Business Review, March, 1951, p. 98.

⁸⁸Ibid.

⁸⁹Mordecai Ezekiel, "Statistical Investigations of Saving, Consumption, and Investment," The American Economic Review, June, 1942, pp. 282 f.

variation in investment was explained by this simple relation. . .

"⁹⁰ Further on, the same writer stated: ". . . When profits of both the preceding and the current year are taken into account, over nine-tenths of the variation in investment could be explained, with profits of the preceding year having a weight almost 50 per cent heavier than the profits of the current year."⁹¹

Taitel made an analysis of the relationship between profit and asset expansion rates of twenty-two leading oil producing and refining corporations.⁹² He concluded that:

High profit rates, in and of themselves, have not been sufficient guaranties of high rates of asset expansion. . . . At a 5 per cent rate of return, the range has been from an average asset-contraction rate of about 1.4 per cent in 1932 to an average asset-expansion rate of 4.5 per cent in 1937 and almost 6 per cent in 1929. . .
.⁹³

Koch made a study of the financing of large corporations in the fields of manufacturing, trade, transportation, communications, and electric light and power from 1920 to 1939.⁹⁴ One of Koch's

⁹⁰Ibid.

⁹¹Ibid., p. 283.

⁹²Taitel, op. cit., p. 87.

⁹³Ibid., p. 94.

⁹⁴Albert Ralph Koch, The Financing of Large Corporations 1920-39 (New York: National Bureau of Economic Research, 1943), pp. 10 f.

findings is stated as follows:

During the depression years, corporations, even when their current sales and profit positions were relatively favorable, were unwilling to anticipate the future by modernizing and expanding their plant and equipment, although the cost of doing so was low relative to prosperous years. In tobacco, for example, although sales dropped only 13 per cent and net income before dividends actually increased 22 per cent from 1929 to 1932, the fixed property/depreciation ratio dropped from 2.8 to 1.4, or 50 per cent.⁹⁵

Katona and Morgan⁹⁶ in connection with their survey, studied the relationship between current business conditions and expansion plans as well as that between business prospects and expansion plans. A tabulation of the results is given in Tables 24 and 25.

While these tables show a correlation between expansion plans and both the evaluation of current conditions and business prospects, the correlations are far from perfect. Although the percentage of those who planned to expand plant and machinery and who thought business was very good, was high--64 per cent, as compared to 38 per cent who thought business was good, and 33 per cent who thought business was bad--yet the fact remains that 33 per cent of the firms who thought that business was bad still planned to expand. Table 25 shows that 60

⁹⁵Ibid., p. 30.

⁹⁶See description of this study under The relative importance of the revenue versus the expense component of net profit in making investment decisions, supra.

TABLE 24

RELATION BETWEEN EXPANSION PLANS
AND THE EVALUATION OF CURRENT
BUSINESS CONDITIONS*

Expansion Plans	Percentage Distribution of Firms According to Executives' Opinions of Current Business Conditions		
	Very Good	Good	Bad
To build new plants or additions to plants	45	18	22
To add new machinery.	19	20	11
Uncertain or not ascertained. . .	10	9	4
Will not expand	26	53	63
	100	100	100
Number of Firms.	80	77	27

*Source: George Katona and James N. Morgan, "The Quantitative Study of Factors Determining Business Decisions," The Quarterly Journal of Economics, February, 1952, p. 87.

TABLE 25

RELATION BETWEEN EXPANSION PLANS
AND THE EVALUATION OF
BUSINESS PROSPECTS*

Expansion Plans	Percentage Distribution of Firms According to Executives' Opinions of Business Prospects				
	Better	About the Same	Pro-con, Depends Don't Know		
			Worse		
To build new plants or additions to plants . . .	49	27	25	21	
To add new machinery . . .	11	23	17	16	
Uncertain or not ascertained	6	9	8	6	
Will not expand	34	41	50	57	
	100	100	100	100	
Number of Firms	35	74	60	14	

*Source: George Katona and James N. Morgan, "The Quantitative Study of Factors Determining Business Decisions," The Quarterly Journal of Economics, February, 1952, p. 87.

per cent of those who expected business to be better planned to expand yet 34 per cent of those who expected business to be better did not plan to expand. It is also worthy of note that 37 per cent of those who expected business to be worse planned to expand plant and machinery.

Conclusions on ex-post profits as a determinant of investment decisions. --Thus, of the studies reviewed, Taitel's indicates that there is no close relationship between profit rates and asset expansion.

Koch's study indicates, that for the depression phase at least, neither a good present profit showing nor present sales showing necessarily means more investment. The Katona and Morgan study does not indicate much as to the relative importance of realized and anticipated profits. It does indicate, however, that expansion does not automatically take place as a result of favorable present business conditions as is so often implied. In fact, the authors themselves stated: "In conclusion, it appears from the answers received to the direct question of why, that both genuine decision-making based on definite expectations and also habitual, quasi-automatic action do occur in the field of new capital outlays. . . ."⁹⁷

The remaining two studies indicate a closer relationship between ex-post profits and business expansion decisions. However, the authors of the Minneapolis study indicate that the companies surveyed did "not fit the separation-of-ownership-and-management pattern made famous by Berle and Means."⁹⁸ There was an interwoven relationship among owners, boards of directors, and managers. Risk taking, policy making, and operating decisions often overlapped. All three functions were sometimes combined in key people.⁹⁹ It is pointed out that:

⁹⁷ Katona and Morgan, op. cit., p. 86.

⁹⁸ Heller, Harvard Business Review, op. cit., p. 96.

⁹⁹ Ibid.

". . . Managers who are also owners tend to keep their eyes on maximum profits rather than on internal 'empire-building' designed to build up their position as managers. . . ." ¹⁰⁰ Furthermore, there was a tendency to do less screening of investment expenditures. ¹⁰¹ When these facts are considered, therefore, the Minneapolis Project can be reconciled with the proposition that ex-post profits are a more important factor in the small closely-held firm than in the large widely-held corporation--which has been the pattern emerging from this consideration of profit maximization as a factor in investment decisions.

Thus, although undoubtedly a factor, it is by no means certain that all, or even a substantial portion, of investment decisions are made on the basis of past and current accounting profits. Not only has profit maximization itself been weakened and diffused, especially in the large corporation, but it is far from certain that accounting profits are used in lieu of expected profits.

An Evaluation of the Argument That Businessmen
Are Misled by Accounting Profits in
Making Investment Decisions

The accentuation of business fluctuations via accounting methods depends upon the failure of those making investment decisions to

¹⁰⁰ Ibid.

¹⁰¹ Ibid., p. 97.

recognize that reported profits are "fictitious". --Even if it is conceded that profit maximization is paramount in investment decisions and that ex-post profits are used as a guide in lieu of prospective profits, it still remains to be shown that businessmen are misled into overexpansion during the upswing and into underexpansion during the downswing by relying on these reported profits. Could not the businessmen who make investment decisions, if aware of the methods used in determining the profits, make allowances for this misstatement? Butters and Niland point out this possibility: ". . . To the extent that the nature of inventory profits and losses is more generally understood, business expectations and decisions are less likely to be seriously distorted, whatever the accounting procedure adopted."¹⁰²

This point is admitted by even the most vociferous adherents of the doctrine that accounting methods accentuate business fluctuations. One of the earlier writers on the subject of inventory profits has said:

In the recognition of paper profits for what they really are, industry has in its own hands the power to check unwise expenditure and overexpansion. . . . If business permitted itself to be guided by what remained of the profit and loss account after the required reserves were taken out of it, the danger signal of narrowing profit margins would be recognized at a much earlier stage in the business cycle, and, in fact, much of the cycle itself would disappear.¹⁰³

¹⁰²J. Keith Butters and Powell Niland, Effects of Taxation--Inventory Accounting and Policies (Cambridge: The Riverside Press, 1949), p. 103.

¹⁰³George E. Putnam, "The Role of Paper Profits in Industry," Harvard Business Review, January, 1926, p. 136.

Schmidt himself recognized this possibility as shown by the following statement:

. . . So it shows that the application of present-day cost prices in the accounting could iron out the creases in the industrial business cycle. The climax of expansion could be avoided as soon as the entrepreneurs realize that their actual profits do not warrant the exaggerated expansion of their business concerns. . . .¹⁰⁴

Cotter has made the same point: "More general recognition by industry and the accounting profession of the fact that bookkeeping profits as now recorded are only too often 'Fool's Profits', will go a long way towards ironing out peaks and valleys in our economic and social scheme of things, will act as a stabilizer for business."¹⁰⁵ Arthur also put emphasis on this failure to recognize the fictitious nature of accounting profits: ". . . In fact, it is largely the failure to recognize the fictitious nature of inventory profits that has made them an important business cycle factor. . . ."¹⁰⁶

In 1938, when Arthur wrote the following lines, businessmen may not have understood the nature of inventory profits:

¹⁰⁴F. Schmidt, "The Valuation of Fixed Assets in Financial Statements," Proceedings of the International Congress on Accounting, 1929, p. 17.

¹⁰⁵Arundel Cotter, Fool's Profits (New York: Barron's Publishing Company, Inc., 1940), p. 14.

¹⁰⁶Henry B. Arthur, "Inventory Profits in the Business Cycle," The American Economic Review, March, 1938, p. 33.

The very limited recognition accorded by business-men to the problem of inventory profits and losses is matched by an equally meager treatment by economists and statisticians. There is an almost complete absence of mention of unrealized inventory gains in the literature of business cycles. . . .¹⁰⁷

There is evidence, today however, that there is a better understanding of these unrealized inventory profits and losses.

The nature of accounting profits is now better understood than in the period before the beginning of the Second World War.--Lacey, an advocate of the theory that accounting methodology accentuates cycles, has said that in recent years: ". . . The long uptrend has . . . revealed the inadequacy of depreciation provisions based on original cost, and there is now a healthy scepticism to profits as reported on conventional methods."¹⁰⁸ Butters and Niland also point out that there is better recognition of the nature of inventory profits and losses than formerly.

Inventory accounting and its relation to profit determination have been widely debated since 1939 under the combined impact of the authorization of LIFO for tax purposes, the wartime excess profits tax, and the pronounced price rises during and after the war. The top management of numerous companies has had to decide whether to adopt LIFO; regardless of the decision, the consideration of the problem has brought about an increasing awareness of the nature of inventory profits. As a consequence, misinterpretation of profit figures by business executives is undoubtedly less widespread today than, say, during the 1930's. . . .¹⁰⁹

¹⁰⁷ Ibid., pp. 32 f.

¹⁰⁸ K. Lacey, Profit Measurement and Price Changes (London: Sir Isaac Pitman and Sons, Ltd., 1952), p. 29.

¹⁰⁹ Butters and Niland, op. cit., p. 103.

Brown, another student of the effect of accounting profits on the economy, has said:

In recent years a considerable education as to the meaning of business profits has taken place. Editorials, articles, company reports, Congressional hearings, and public addresses that have discussed the meaning of profits in a period of price changes have improved the understanding of stockholders, management, labor groups, and the public. . . .¹¹⁰

What evidence is there of the validity of the statements made by these three writers?

There was evidence in the profit hearings held in December, 1948 that business leaders understood that reported profits were misstated. These hearings were held in a year in which reported profits were the highest on record up to that time. Furthermore, in the preceding year, 1947, accounting profits were estimated to be misstated more than in any other year.¹¹¹ At these hearings Charles E. Wilson, President of General Electric, said: ". . . In this connection, it should be noted that under present-day conditions a large percentage of the figures reported as profits are not available for distribution, since a portion of those profits must be used to offset the rise in the cost of replacing inventory and the increased cost of replacing plant and

¹¹⁰ E. Cary Brown, Depreciation Adjustments for Price Changes (Cambridge: The Riverside Press, 1952), p. 84.

¹¹¹ Table 14 shows inventory profits to be \$5,899 million for 1947 and Table 20 shows the "corporate depreciation adjustment" to be \$2,677 million. The sum of the two exceeds that for any other year.

equipment. . . ." ¹¹² Robert Dunlop, President of Sun Oil Company, also testified: ". . . last year we decided that we would be less than prudent if we failed to give recognition to the inadequacy of depreciation to provide for the replacement of existing facilities at current high construction costs by setting up a replacement reserve. . . ." ¹¹³ Eugene Holman, President of Standard Oil Company of New Jersey, also indicated his knowledge of the distorting tendency of accounting methods on profits in a period of inflation in these words: "While our profits are not appreciably inflated by inventory evaluations, they are overstated because no special depreciation reserve has been set up." ¹¹⁴

Another piece of evidence that ex-post profits are not necessarily accepted as the basis for policy decisions in the large corporations and thus "mislead" the policy makers in investment decisions is the fact that many of these corporations employ economists as well as accountants. Twenty-five years ago there were "perhaps 100 economists employed in industry; today there are approximately 1500." ¹¹⁵

¹¹² U. S. Congress, Profits, A Report of a Subcommittee of the Joint Committee on the Economic Report on Profit Hearings, 80th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 57.

¹¹³ Ibid., p. 58.

¹¹⁴ Ibid.

¹¹⁵ Charles E. Silberman and Sanford S. Parker, "The Economy's Scouts," Fortune, December, 1955, p. 100.

Sixty-five big companies that employed only twenty economists in 1930 today have two hundred and seventy on their staffs.¹¹⁶ Among four hundred and five companies (accounting for one-fourth of all U. S. industrial assets) a recent survey by Fortune revealed that one hundred and forty-one (35 per cent) employed economists and fifty-five more (14 per cent) used outside consultants.¹¹⁷ In two-thirds of the companies who use them the economists' reports and recommendations are influential (from "moderately important" up to "crucial") in determining policy.¹¹⁸

Would investment decisions have been any different if the method of accounting had been more "realistic"? Brown made field interviews in twenty-two companies after surveying their 1947 and 1948 financial statements.¹¹⁹ The group of companies selected represented about half of the large companies with a highly developed depreciation adjustment for price changes "or some such phenomenon."¹²⁰ On the basis of this study Brown concluded:

¹¹⁶ Ibid.

¹¹⁷ Ibid.

¹¹⁸ Ibid. Prominent among the companies mentioned as making use of economists are Ford Motor Co., Standard Oil of New Jersey, and Continental Can. Ibid., pp. 242 and 247.

¹¹⁹ Brown, op. cit., pp. 42 f.

¹²⁰ Ibid., p. 42.

. . . that under post World War II conditions replacement-cost depreciation would have constituted some change in the climate within which business decisions are made. Its influence did not seem strong enough to be emphasized by executives in firms favorable to such an adjustment.¹²¹

The better knowledge of the nature of accounting profits with fluctuating price levels may not always be appreciated by executives in small and medium-sized corporations, particularly. Butters and Niland state:

. . . The majority of business executives, especially of small and medium-size companies probably still do not fully appreciate the significance of price changes on their profit figures. This hypothesis is supported by the relatively little attention given to LIFO by small and medium-size companies. . . .¹²²

Even in case of the small companies, however, one writer points out that even though companies with relatively few stockholders may not feel that it is necessary to call the stockholders' attention to the impact of higher costs on operating policies, the problem is usually discussed at stockholders' meetings.¹²³

The fact that historical costs are used in published statements to stockholders does not mean that they are necessarily used for managerial purposes. This is illustrated by a question and answer period

¹²¹Ibid., p. 49.

¹²²Butters and Niland, op. cit., p. 104.

¹²³James A. Finley, Handling Higher Replacement Costs ("Studies in Business Policy No. 47"; New York: National Industrial Conference Board, 1950), p. 9.

following a talk by Mr. William Blackie, Vice President of Caterpillar Tractor Company, before the Twenty-ninth Conference of the National Association of Cost Accountants, June 21, 1948. Mr. Blackie had argued very vehemently for an adaptation of accounting to changing price levels.¹²⁴

H. C. Todt (Assistant Comptroller, Bristol Laboratories, Inc.). Mr. Blackie, I would like very much to know to what extent you are using the ideas which you mentioned in your speech in the preparation of your company's financial statements.

Mr. Blackie. We are not using them publicly.

In other words, the implication would appear to be that they were using the ideas, internally for managerial purposes, but not in their published statements to stockholders.

There is an inconsistency present in the argument that management is "misled" by accounting profits which must be "adjusted" before they can be used for managerial decisions. This inconsistency is illustrated by the following extracts from a speech made by Professor Willard J. Graham before the American Accounting Association meeting in Memphis, Tennessee, on September 9, 1948.

But where does management get the current cost and income information that it must have? Not, in most cases, from the accounting records, for they usually reflect only original cost.

¹²⁴William Blackie, "What Is Accounting Accounting For--Now?" National Association of Cost Accountants Proceedings, 1948, pp. 54 f.

Special reports must be prepared, often at great expense, to secure the information that should be available from the regular cost and income reports. It is on the basis of this 'adjusted' information that management appraises the effectiveness of past and current operations and plans for the future. . . .¹²⁵

Later on in the same talk Professor Graham said:

. . . By charging unrealistic past cost against current revenue, we have constantly overstated profits in periods of rising and high prices. We have thereby artificially stimulated the continuation and expansion of business activity at high levels and have thus been partially responsible for over-expansion, inflated stock prices, and unwarranted wage demands--some of the factors that carry business 'booms' to dangerously high levels. . . .¹²⁶

Professor Graham does not enlighten us on how these effects of false accounting are to take place, but if management makes its decisions on the basis of "this adjusted information", and if accounting information is merely the point of departure for the computations on which managerial decisions are based, then it is hard to see how management can be misled by information which it does not use in its decisions.

Investment decisions are not made lightly. --A number of researchers into investment behavior have commented that investment expenditures are not taken lightly. In fact there is a noticeable restraint on these expenditures and considerable screening takes place.

Concerning this cautiousness, de Chazeau has said:

¹²⁵Willard J. Graham, "The Effect of Changing Price Levels Upon the Determination, Reporting, and Interpretation of Income," The Accounting Review, January, 1949, p. 18.

¹²⁶Ibid., p. 21.

. . . Out of some such sense of responsibility to the firm's owners, managers have developed an exaggerated caution in the formal procedures concerning capital expenditures. Not only must the proposed expenditure run the gantlet of an ascending series of potential vetoes, but executives who may commit the firm to other purchases and sales involving many thousands of dollars have a niggardly freedom of action in this area. Executive authorization, even for the president of a large corporation, is extremely restricted--\$5,000-\$10,000 was a not uncommon limit, and in one leading firm in its field, projects requiring more than \$500 could not be initiated without the approval of the board of directors. . .

¹²⁷

Eisner also spoke of the caution and restraint in making capital expenditures, in these words: "The formal procedures concerned with approval of capital expenditures seem characterized by a caution and restraint which suggests that management is more concerned about preventing excessive expenditure than increasing potential receipts. . .

. . ."¹²⁸ Heller found that the final word on investments "is usually given by some one officer who specialized in blending the technological considerations, market analyses, and financial factors which underlie investment decisions. . . ."¹²⁹ Furthermore, this tendency for careful screening seems to be growing, as is indicated by this statement: ". . . Research leading up to this report shows that more and

¹²⁷ Melvin G. de Chazeau, "Regularization of Fixed Capital Investment by the Individual Firm," Regularization of Business Investment (Princeton: Princeton University Press, 1954), p. 94.

¹²⁸ Eisner, op. cit., p. 64.

¹²⁹ Heller, op. cit., p. 99.

more companies . . . are deserting haphazard methods of appropriating capital in favor of systems of checks and balances which at least offer better hope for success than the 'hunch' or 'pet projects' approaches. . . .¹³⁰

Heller outlines a typical screening process in these words: "Projects up to \$2,000 or \$4,000 . . . can be given final approval by plant managers. Between these figures and \$10,000, the production manager decides. Over \$10,000, the proposal must be approved by the executive vice president and the board of directors. . . ."¹³¹ The above procedures for screening capital expenditures do not fit the picture painted by so many writers of the businessman recklessly rushing out during periods of rising price levels to expand his business on the basis of fictitious accounting profits. There is more reason for suspecting that during the downswing this cautiousness plus the "understated" profits during the depression phase would tend to reinforce each other.

After comparing accounting to a compass which points to the magnetic pole instead of the geographic pole,¹³² and observing that

¹³⁰ John H. Watson, III, Controlling Capital Expenditures ("Studies in Business Policy No. 62"; New York: National Industrial Conference Board, April, 1953), p. 3.

¹³¹ Heller, op. cit., p. 99.

¹³² See "The Effect of Accountants' Misstatement of Profit on Business Fluctuations," Chapter III.

science, with its exact methods, has made it possible for every captain to make the necessary corrections, Schmidt states:

. . . In der Wirtschaft ist man über das Stadium der ersten groben, auf Einzelerfahrung beruhenden Korrekturversuche noch nicht hinaus. Deshalb landen auch die einzelnen noch häufig an anderen Punkten des endgültigen Erfolges, als sie erwarten. Das Schlimmste ist aber, dass die Wirtschaftsführer gar nicht daran denken, dass wissenschaftlich aufgebaute Korrekturmethoden, die sich überdies leicht in einfache Formen bringen lassen, ihrer Rechnung helfen könnten.¹³³

Is the businessman of today really misled because his income statement points to accounting profits rather than "true" profits? It is the belief of the author that, although the deviations cannot be measured as accurately as those of the magnetic compass, the fact that the deviation exists is at least recognized, and that leaders of large business firms have progressed much beyond the stage which Schmidt observed in his day. This is not to deny that navigation would be simpler if the compass did point to true north, and that the management of a business enterprise would be easier if the accountant reported "true" income. This, however, is not the point at issue.

¹³³F. Schmidt. "Die Industriekonjunktur - ein Rechenfehler!" Zeitschrift für Betriebswirtschaft, (2) Sonderheft. 1927, p. 94. This passage is translated as follows: ". . . In business one is not yet beyond the stage of the first crude correction experiments resting on individual experience. Therefore individuals land at other points of the final success than they expected. The worst, however, is that business leaders don't think at all that scientifically constructed methods of corrections, which besides could easily be put into simple forms, could help their accounting."

Modification Introduced by Changes
in Technology

The importance of autonomous investment in the total investment process. --Up to this point, technology as a factor in the investment process has been largely ignored. In other words, the discussion has been concerned with induced investment as opposed to autonomous investment "or independent investment (more or less independent of current sales)"¹³⁴ which "is opened up by inventions, new discoveries, new products, and new processes."¹³⁵ One writer has stated however that "in capitalistic economies technological change is annually responsible for a large portion of the total volume of investment that actually occurs. . . ."¹³⁶ This same writer also says: "If technological improvements should cease or decline substantially, total private investment in highly developed capitalistic economies would probably decline to intolerably low levels. . . ."¹³⁷ Heller concludes that satisfactory or growing markets and advanced technology provide most of the "thrust" or active stimulus for

¹³⁴ Alvin H. Hansen, Business Cycles and National Income (New York: W. W. Norton and Company, Inc., 1951), p. 190.

¹³⁵ Ibid.

¹³⁶ Buchanan, op. cit., p. 149.

¹³⁷ Ibid.

investment. 138

The effect of bringing autonomous investment into the picture. --

When autonomous investment is admitted, then the importance of current realized income as a determinant of current investment is weakened still further. de Chazeau has said: ". . . The risk that rivals may approximate or better a company's own achievements can outweigh the risk of unsatisfactory current market returns. . . ."¹³⁹

Who is in the best position to make these autonomous investment decisions? de Chazeau states: "In the initial stages at least, the large firm affords the most favorable opportunities for a noncyclical investment policy. . . ."¹⁴⁰ It is the large firm that has the technical know-how of research, engineering, and management. Terborgh points out that: ". . . While the day of the independent inventor is by no means over, we must recognize the increasingly dominant role played by group or staff research under the auspices of corporations and institutions. . . ."¹⁴¹ Evidence of this is offered by

¹³⁸ Heller, op. cit., p. 100.

¹³⁹ Melvin G. de Chazeau, "Can We Avoid Depression in a Dynamic Economy?" Harvard Business Review, July--August, 1954, p. 42.

¹⁴⁰ Ibid.

¹⁴¹ George W. Terborgh, "Capitalism and Innovation," Papers and Proceedings of the Sixty-second Annual Meeting of the American Economic Association in The American Economic Review, May, 1950, p. 121.

125 manufacturing corporations cooperating in a survey by the National Industrial Conference Board. The Board reports: "Almost two thirds of the cooperating companies do 95% or more of their research and development work in their own laboratories. Only 15 of the 109 companies reporting on this noted that they did less than 75% of such work with their own facilities. . . ."¹⁴²

Slichter, one of the critics of accounting due to its adverse cyclical effects, has recently said:

Thus, the volume of investment opportunities produced by research does not fluctuate with business conditions; it grows more or less steadily as research expands, and is just about as large in a bad year as in a good one. . . . Indeed, the need of the company for more sales may be a reason for not delaying the exploitation of the new process or product. . . .¹⁴³

Thus, with the placing of changing technology in the institutional framework, the profit motive--whether conceived of as prospective profits or as current profits--becomes more diffused and indirect as a determinant of investment decisions. Andrews and Brunner point out:

In the case of completely new products and the introduction of processes for their manufacture, the decisions are so much a matter of broad views of trends of demand and of profitabilities broadly estimated, together with prestige factors

¹⁴²Research Dollars Grow With Sales," The Conference Board Business Record, November, 1951, p. 467.

¹⁴³Summer Slichter, "Thinking Ahead," Harvard Business Review, January--February, 1955, p. 158.

sometimes involved in entering new markets, that it would be misleading to think of them as at all based upon estimates of earnings, in the sense that critical minima are required before adopting a scheme. Everything is too conjectural for such rigid theoretical notions to be very helpful.¹⁴⁴

Reported Profits After Federal Income
Taxes and Investment Decisions

Business decisions may be different if profits after taxes are to be maximized. --The remarks concerning investment decisions to date have been based on the effect of accounting methods on income before taxes. This position is in accord with traditional economic theory. This fact is pointed out by Bernstein:

In conventional economic theory, profits are maximized by reducing costs or expanding sales. The profit concept is always before taxes. With the present level of income taxes--both corporate and personal, a third method has been introduced: the minimization of taxes. . . .¹⁴⁵

Likewise, most of the writers dealing with the effect of accounting profits on investment decisions neglect to mention whether it is profits before, or after, income taxes about which they are speaking.¹⁴⁶ However, the effect of profit after taxes on business decisions may be different from the effect of profit before taxes. In fact, Bernstein has

¹⁴⁴ Andrews and Brunner, op. cit., p. 356.

¹⁴⁵ Bernstein, op. cit., p. 416.

¹⁴⁶ A few writers do mention the tax angle in this connection, e.g., see statements by Froehlich and Baxter, infra.

said that "with the passage of time, the efforts of businessmen to maximize after-tax profits run more and more at variance with their traditional efforts to maximize pretax profits. . . ."¹⁴⁷

At least one study has been made of the relationship of aggregate investment expenditures lagged by six months and aggregate corporate profits after taxes for the period from 1919 through 1941.¹⁴⁸ The conclusion was reached that: "The variations in plant and equipment outlays over the prewar period are fairly well described by the movements in earnings. . . ."¹⁴⁹

The effect on investment decisions of the adoption of the Lifo principle for tax purposes. --The Lifo principle for tax purposes has not been tried as yet on any large scale so there is actually only limited experience on which to judge how the general adoption of this method for tax purposes would modify investment decisions. In recent years, it is true that an increasing number of companies have adopted Lifo for inventories¹⁵⁰ but the Lifo principle has not been permitted

¹⁴⁷ Bernstein, op. cit., p. 422.

¹⁴⁸ U. S. Congress, Staff of the Subcommittee on Investment, Joint Committee on the Economic Report, Factors Affecting Volume and Stability of Investment, Senate Document No. 232, 81st Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1950), p. 101.

¹⁴⁹ Ibid.

¹⁵⁰ See Table 10, Chapter IV.

with respect to fixed assets, and even those adopting it for inventory purposes are still in the minority. Since the use of Lifo for tax purposes has been permitted, there has been no major drop in prices and there is no evidence as to what changes Congress would make in the tax laws in case of a severe depression.

If the Lifo principle were generally adopted with reference to both fixed assets and inventories, for tax purposes as well as for accounting purposes, the gap between reported income after taxes computed in the traditional way and computed on the Lifo principle would be narrowed. In a period of rising prices under the traditional methods, the firm would pay more taxes on a greater reported income; whereas, if the Lifo principle were applied, the firm would report less income and also pay less taxes. Therefore, the difference in reported income after taxes between the traditional method and that reported under the Lifo principle would not be as great as it would be before taxes. This is illustrated by Table 26. It will be noted that the difference in reported income before taxes is \$4,000 but after taxes the difference is only \$1,600. The above facts can be generalized mathematically.

Let D = the difference between profits before tax reported by traditional method and that reported under the Lifo principle.

R = the reduction in after-tax profits using Lifo.
 r = rate of taxation.

Then Dr = amount of tax reduction using the Lifo principle.

Therefore $R = D - Dr$ or $R = D(1 - r)$

TABLE 26

HYPOTHETICAL COMPARISON OF PROFITS AFTER TAXES
 UNDER TRADITIONAL ACCOUNTING METHODS
 AND THE LIFO PRINCIPLE

	Traditional Methods	Lifo Principle
Sales	\$100,000	\$100,000
Less cost of goods sold	<u>60,000</u>	<u>62,000</u>
Gross profit	\$ 40,000	\$ 38,000
Less operating expenses:		
Other than depreciation	\$ 20,000	\$ 20,000
Depreciation	<u>3,000</u>	<u>5,000</u>
Total operating expenses	\$ 23,000	\$ 25,000
Net profit before income taxes	\$ 17,000	\$ 13,000
Less income taxes (60%)	<u>10,200</u>	<u>7,800</u>
Net profit after income taxes	\$ 6,800	\$ 5,200

From this formula, it can be seen that the difference between reported profits after taxes will tend to vary inversely with the tax rate. In the above example, if there were no income taxes, then the difference in income would have been \$4,000; whereas, if the tax rate had been 100 per cent, then in both cases there would have been no profits after taxes, and the difference in after-tax profits computed by the two methods would have been zero.

To the extent, therefore, that investment is based on profits after taxes, high corporate income taxes represent another factor in the institutional arrangement that tends to vitiate the effect of accounting methods on business fluctuations. In the twenties and thirties with

their concomitant low tax rates, this factor was almost non-operative. However, with the high rates prevailing in the forties and fifties this reduction in the spread of after-tax profits cannot be ignored.

Furthermore, if taxes are based on profits computed under the LIFO principle, there are other ramifications. Experts in public finance advocate that the tax policy of the government should be countercyclical--more taxes should be collected in prosperity and less during the depression. By increasing tax liabilities when prices are rising and reducing them when prices are falling, traditional accounting procedures tend to place business in a tighter cash position in expanding periods and in a freer cash position in declining periods. Other things being equal, income taxes based on traditional methods of accounting would thus fit in with a countercyclical tax policy better than procedures designed to stabilize reported income before taxes. Froehlich has said that: ". . . Income taxation which permits 'Last-in-First-out' inventory evaluation decreases taxes in prosperity and increases them in depression, and aggravates cyclical disturbances."¹⁵¹

There is a conflict between the "psychological effect" of leveling profits before taxes by the use of the "LIFO principle" and the "cash effect" of having more money after taxes during the boom and less

¹⁵¹ Walter Froehlich, "The Role of Income Determination in Reinvestment and Investment," The American Economic Review, March, 1948, p. 91.

during the depression, as occurs when this principle is adopted for tax purposes as well as for reporting purposes.¹⁵² To the extent that the leveling of profits over the cycle affects business investment decisions, the use of LIFO would tend to iron out fluctuations in investment expenditures. To the extent that the cash position is controlling, the use of LIFO for tax purposes would tend to cause more business investment during the boom and less during the depression. Thus the "cash effect" and the "psychological effect" tend to offset each other. Furthermore, the "cash effect" is strengthened with higher tax rates and the "psychological effect" is weakened by a better understanding of the nature of accounting profits and losses.¹⁵³

Even the cyclical effect of basing taxes on income computed by traditional accounting methods is not clear cut, however. The ultimate effect of collecting more taxes during the prosperity phase will depend upon what the government does with the extra taxes collected versus what businesses would have done, if they had been allowed to keep the extra profits. If the government spends the money instead of retiring the public debt, then the result may well be as inflationary as if it had been spent by the businesses themselves, or by the stockholders if the extra profits had been declared as dividends.

¹⁵² Butters and Niland, op. cit., p. 125.

¹⁵³ Ibid., p. 106.

Some of the writers on the effect of accounting methods on business fluctuations take cognizance of the tax issue. Baxter admits that "this counter-argument should plainly make us pause."¹⁵⁴ Baxter argues, however, that "various factors lessen the compensating effect of tax"¹⁵⁵ and concludes that "tax does not appear to neutralise the error's effects. Everyday observation suggests that, despite tax, high profit figures bring elation and low figures gloom."¹⁵⁶

In summary, it is difficult to see how, if the fictitious profits are taxed away by the government or distributed by the company as dividends, it can be argued that they are overly influential in inducing businessmen to overinvest during the upswing since less would be available to the company than if the profits were reported and taxed on a more "realistic" basis.

Some Further Considerations of the Effect of
Accounting Profits on Investment
Decisions via Security Prices

In the second chapter evidence was presented to show that many writers think that accounting profits influence investment decisions

¹⁵⁴ W. T. Baxter, "The Accountant's Contribution to the Trade Cycle," Economica, May, 1955, p. 111.

¹⁵⁵ According to Baxter these factors are: (1) tax is not usually included in cost calculations; (2) tax is not usually assessed at 100 per cent so that some profit remains to "cheer the appropriation account"; and (3) high profits convey a comfortable suggestion of high cash resources. Ibid.

¹⁵⁶ Ibid.

by affecting the price of shares and, hence, the ease with which monetary capital can be raised.¹⁵⁷ The relationship of accounting profits to investment via security markets has two aspects: (1) the relationship of accounting profits to security prices and (2) the relationship of security prices to investment decisions. These two links in the chain of causation between reported profits and investment will now be separately investigated.

An evaluation of the relationship of accounting profits and security prices. --Recent studies of the behavior of the stock market since 1929 have revealed that the market does not always mirror business conditions nor does it forecast business activity.¹⁵⁸ A conclusion reached in one such study was: ". . . An analysis of business and market trends over the past twenty-five years indicates that stock-market moves sometimes precede changes in business activity and sometimes follow them; that it is impossible to state with assurance whether the market is forecasting future conditions or reflecting existing or past conditions. . . ."¹⁵⁹ It was found that only for the years from 1933 to 1937 did stock market prices closely parallel business conditions.

¹⁵⁷ See discussion under subheading, Accounting profits as a factor in the raising of monetary capital.

¹⁵⁸ Herbert V. Prochnow (ed.), Determining the Business Outlook (New York: Harper and Brothers, Publishers, 1954), p. 86.

¹⁵⁹ Ibid., pp. 91 f.

This was partly attributed to the lack of sensitivity of the market in recent years due to the relative importance of the institutional investor. It was stated that the "institutional buyers who offer a steady and constantly growing demand for securities, and who can afford to overlook the short-term business fluctuations, contribute to a degree to the reduced sensitivity of the market to business change. . . ."¹⁶⁰ The varying of the margin requirement also makes the market less sensitive to business change.¹⁶¹

During the early post-war years when reported profits were the highest on record, up to that time, the stock market was in the doldrums. A large section of the general public during this period actually believed that accountants, rather than overstating profits as has been so frequently alleged, actually understated them. This fact was revealed by a survey made by the Opinion Research Corporation for the Controllership Foundation, Inc. 1869 responded to the question: "Do you think most companies tell the truth about their profits, or do you think they actually make more than they say they do?"¹⁶²

¹⁶⁰Ibid., p. 92.

¹⁶¹Ibid.

¹⁶²Opinion Research Corporation, The Public's Acceptance of the Facts and Figures of Business Accounting, A Survey for Controllership Foundation, Inc. (Princeton, New Jersey: Opinion Research Corporation, March 19, 1947), p. A-25.

Forty-five per cent stated that they believed corporations made more profit than they reported.¹⁶³ Even among stockholders, thirty-four per cent said that corporations made more profit than they reported.¹⁶⁴ In spite of the fact, that they believed profits were even higher than the record-breaking profits which were being reported, there was no rush to buy equity securities during this period.

There is evidence that the price of securities is more influenced by the pay-out policy of corporations than by reported earnings. One student of the dividends versus earnings controversy has said: "There has been virtually unanimous agreement that the dividend rate is an important factor and exerts an influence upon price entirely independent of the earnings factor. . . ."¹⁶⁵ Some studies have even attempted to compare the relative importance of the dividend factor and the earnings factor as market forces. Graham and Dodd in referring to two of these studies¹⁶⁶ have said: "Our own studies of various industry groups during the rather stable stock market of 1947-1949 led

¹⁶³ Ibid.

¹⁶⁴ Ibid.

¹⁶⁵O. K. Burrel, "Dividends vs. Retained Earnings As a Market Force," The Commercial and Financial Chronicle, August 21, 1952, p. 29.

¹⁶⁶Hugh Postoriza, "Valuing Utility Earnings Distributed and Retained," Analysts Journal, July, 1945, and Harold H. Young, "Factors Influencing Utility Price Earnings Ratios," Analysts Journal, Spring, 1946.

us to a similar conclusion that the weight of \$1 of distributed earnings tended to be about four times as great as that of \$1 of retained earnings."¹⁶⁷

One writer has attributed the weak prices of stocks in the 1947 to 1949 period to the dividend policies of corporations. His statement follows:

After all, from the investor's vantage point, distributable earnings are earnings to be paid out in the form of dividends. And in the valuation of securities probably one of the factors explaining the historically weak-price-earnings ratio (of 1947-1949) is that needs for capital outlays reduced dividend payout possibilities.

¹⁶⁸

Thus, as another writer has stated: ". . . It may be that investors have quite reasonably determined that so called 'earnings' which have no prospect of being translated into dividends have no reality. . . ." ¹⁶⁹ However, in so far as the investor discounts the reported earnings in periods of price fluctuations, then the relationship between these reported profits and security prices tends to break down.

Of course, it may be argued that reported earnings affect dividend policy, which, in turn, affects the prices of securities. In

¹⁶⁷ Benjamin Graham and David L. Dodd, Security Analysis (3rd ed.; New York: McGraw-Hill Book Company, Inc., 1951) p. 432.

¹⁶⁸ Charles T. Horngren, "Security Analysts and the Price Level," The Accounting Review, October, 1955, p. 580.

¹⁶⁹ Burrel, op. cit., p. 30.

fact, Graham and Dodd believe that earnings are important only because of their bearing on present and future dividends.¹⁷⁰ However, this makes the relationship between accounting profits and security prices more roundabout and problematical.¹⁷¹ Burrel states that the dividend factor, as compared to reported earnings, has become relatively more important since 1929 in these words: ". . . There is reason to suppose . . . that the dividend factor was relatively less important in 1929 than now. . . ."¹⁷² Graham and Dodd also state that until recent years the market level of common stocks has been governed more by their current earnings than by their long-term average.¹⁷³ To the extent that this is true, then the link between reported profits and share prices has become weaker, and here is another piece of evidence that the effect of accounting methodology on business fluctuations has become weaker since Schmidt's day.

Whether the fact that security prices do not closely follow reported earnings is due to the rising importance of the institutional investor, varying margin requirements, dividend policy, the tax

¹⁷⁰ Graham and Dodd, op. cit., p. 586.

¹⁷¹ The relationship between reported profits and dividends will be investigated in Chapter VII.

¹⁷² Burrel, op. cit., p. 1.

¹⁷³ Graham, op. cit., p. 427.

structure,¹⁷⁴ or to a combination of these and other factors, it is at least true that there are factors operative in the short-run that seem to be more influential in stock market prices than reported profits.

An evaluation of the relationship of security prices and the amount of real investment. --Even if security prices are influenced by accounting profits, it remains to be seen whether security prices, in turn, are translated into investment expenditures. One writer has stated that: ". . . The change in demand for securities is not transmitted into a change in demand for investment goods. The consequence is a mere financial boom or slump, without any effect on output and employment. . . ."¹⁷⁵ A bit of evidence bearing on this supposition was furnished by McGraw-Hill's 1950 Survey of Capital Spending Plans. The cooperating companies were asked: "Would you boost 1950 spending if you could sell new common stock for 50% more than its present market price?"¹⁷⁶ Only seven per cent of the companies answered

¹⁷⁴See the testimony of Robert Montgomery, Director and Secretary, American Woolen Mills, U. S. Congress, Profits, op. cit., p. 98; also testimony of Robert Dunlop, President of Sun Oil Company, ibid., p. 104.

¹⁷⁵Oscar Lange, Price Flexibility and Employment ("Cowles Commission for Research in Economics Monograph No. 8"; Bloomington, Indiana: Principia Press, Inc., 1944), pp. 43 f.

¹⁷⁶"Industry's 1950 Capital Spending Plans," Business Week, January 21, 1950, p. 78.

"yes" to this question.¹⁷⁷

Many writers have cited the twenties as an example of high profits, high investment, and high sales of equity securities. However, one group of writers has pointed out that in 1929 when the sale of new stock issues hit an all-time peak in September, this was not the result of increasing business and profit. Rather it was the result of inflated stock prices and the fact that business was taking advantage of these prices for refinancing.¹⁷⁸ Another writer has been more specific about the proportion of the proceeds of new security issues going into investment for the years 1927, 1928, and 1929. Simpson says:

The figures . . . show that only from 7 to 12 per cent of the total proceeds of new issues were used during those years for expansion of the issuing corporations' plant and equipment, although another 8 per cent was used by them for the outright purchase of existing plants from others. In 1929 over 38 per cent went to investment trusts, holding companies, and financial companies, and nearly 16 per cent was for refunding. Even larger percentages, 30 per cent and 26 per cent, were for refunding in 1927 and 1928. In short, when one hears of the ten and eleven billion dollars of new issues for 1928 and 1929, that does not mean that issuing corporations received directly or used any such sums for expansion of productive equipment. . .¹⁷⁹

¹⁷⁷Ibid.

¹⁷⁸Prochnow, op. cit., p. 100.

¹⁷⁹Kemper Simpson, "Security Markets and the Investment Process," Papers and Proceedings of the Fiftieth Annual Meeting of the American Economic Association in The American Economic Review, March, 1938, p. 42. Other students of this problem have reached similar conclusions, see, e.g., Harold G. Moulton,

Thus, it would appear that the two links in the chain of causation from reported profits to investment--the connection between reported profits and security prices, and between security prices and investment--are both weak, especially in the years since the late twenties.

An Evaluation of the Argument That Accelerated
Depreciation Will Encourage a
High Level of Investment

Evidence on accelerated depreciation as a stimulus to investment at the firm level. --In the fifth chapter the argument was presented that accelerated depreciation encouraged a high level of investment.¹⁸⁰ This argument is not, however, accepted by all writers.

Domar says: ". . . It is entirely possible that accelerated depreciation will increase neither the rate of growth of investment, nor, for that matter, its level. Certainly, no guarantee can be given. . . ."¹⁸¹ What evidence has been presented to substantiate or to refute this argument?

Terborgh cites the complaints of equipment salesmen.

Controlling Factors in Economic Development (Washington: The Brookings Institution, 1949), pp. 376 f.; and George A. Eddy, "Security Issues and Real Investment in 1929," The Review of Economic Statistics, May, 1937, pp. 79-91.

¹⁸⁰ See "Direct Effects of Depreciation Accounting on the Inducement to Invest."

¹⁸¹ Evsey D. Domar, "A Rejoinder," The Quarterly Journal of Economics, May, 1955, p. 301.

. . . It is a common complaint of equipment salesmen that many of their customers are reluctant to retire assets with substantial remaining book value. They do not like to 'take a loss' on their disposal, and the replacement of the assets is handicapped accordingly. Resistance to remechanization from this source is of course intensified by the retarded writeoff prevailing under the present system of depreciation. . . .¹⁸²

The authors of the Minneapolis Project state: "Three companies were found to use depreciation accruals as a partial substitute for financial budgeting, either as an over-all ceiling or as a measuring rod for allocation of funds on a plant-by-plant basis."¹⁸³ Dean emphasized this tendency as a depression phenomenon: ". . . It was, for example, fairly common during the great depression to confine each major operating unit to a capital budget that was no more than its depreciation and depletion or some fraction thereof. . . ."¹⁸⁴

Eisner, on the other hand, speaks of the tendency to use depreciation allowances as a guide to investment expenditures as a "rule of thumb" that can be "changed where appropriate". He says that ". . . despite evidence of rules of thumb which tend to allow expenditure of depreciation allowances for 'replacement', it is not clear that high depreciation charges can be relied upon to maintain a high level of

¹⁸² George Terborgh, Realistic Depreciation Policy (Chicago: Machinery and Allied Products Institute, 1954), pp. 6 f.

¹⁸³ Arthur Upgren et al., op. cit., p. 16.

¹⁸⁴ Joel Dean, Capital Budgeting (New York: Columbia University Press, 1951), p. 39.

replacement expenditures. . . . The rules and formulas are changed where appropriate.¹⁸⁵ Gort found no evidence that the value of undepreciated plant entered into replacement decisions: ". . . It is an interesting fact, therefore, that in none of the companies was it observed that undepreciated value of plant and equipment entered into calculations of the desirability of capital replacement."¹⁸⁶

Thus, it may be seen that the tendency to use the depreciation allowance as a guide to investment expenditures is far from a universal rule at the firm level.

The evidence for the economy as a whole does not furnish a well-defined relationship between depreciation allowances and investment expenditures. --While there may well be instances in which the investment decisions of individual firms are largely controlled by their depreciation policies, there is certainly no evidence that corporate business as a whole is affected. Corporations spent \$196.3 billion on plant and equipment in the ten post war years, 1946-1955, while depreciation allowances for the same period amounted to \$89.2 billion.¹⁸⁷ It may be argued that this is not a fair comparison since

¹⁸⁵ Robert Eisner, Determinants of Capital Expenditures ("Studies in Business Expectations and Planning Number 2"; Urbana: University of Illinois Press, 1956), p. 25.

¹⁸⁶ Gort, op. cit., II, p. 196.

¹⁸⁷ Computed from, Economic Report of the President, transmitted to the Congress, January 24, 1956 (Washington: U. S. Government Printing Office, 1956), Table D, p. 227.

expenditures were in dollars of decreased purchasing power.

In Table 27 a comparison is made of corporate expenditures on plant and equipment with depreciation allowances on both a replacement cost and historical cost basis. No relationship between the depreciation allowances and the expenditures on plant and equipment is revealed by this table. It is difficult to see how accelerated depreciation during the 1930's could have stimulated investment since allowances on either a replacement or historical cost basis already exceeded the expenditures for plant and equipment during these years. Beginning in 1939 the total expenditures on plant and equipment, with the exception of the war years, of 1942-44, have exceeded depreciation allowances. In twelve out of the twenty-one years covered by Table 27, expenditures on plant and equipment exceeded depreciation allowances on either a replacement or historical cost basis.

The argument for accelerated depreciation as a stimulus to investment boils down largely to a tax argument. --Domar¹⁸⁸ points out that accelerated depreciation affects the firm in two ways. First, with given income tax rates, income tax payments will be postponed, or even reduced. The second effect is to produce a lower profit before and after taxes on the firm's books. According to Domar, the first effect is real in the sense that the firm's position and prospects are

¹⁸⁸ Domar, op. cit., p. 300.

TABLE 27

A COMPARISON OF CORPORATE (NON-FARM) EXPENDITURES ON PLANT AND EQUIPMENT
WITH DEPRECIATION ALLOWANCES* (MILLIONS OF DOLLARS)

Year	Total Durable Equipment (1)	Nonincor- porated Business Durable Equipment (2)	Corporate Durable Equipment (3)	Business Construction (4)	Total Plant and Equipment (5)	Estimated Depreciation (Original Cost) (6)	Estimated Depreciation (Current Cost) (7)
1929	4,672	690	3,982	3,419	7,401	3,871	4,732
1930	3,641	535	3,106	2,812	5,918	3,986	4,530
1931	2,364	349	2,017	1,585	3,602	4,003	4,259
1932	1,330	196	1,134	750	1,884	3,693	3,578
1933	1,280	191	1,089	580	1,669	3,496	3,394
1934	1,849	276	1,573	673	2,246	3,362	3,561
1935	2,319	346	1,973	695	2,668	3,352	3,577
1936	3,181	474	2,707	1,110	3,716	3,286	3,511
1937	3,931	586	3,345	1,493	4,838	3,342	3,891
1938	2,912	433	2,479	1,106	3,585	3,352	3,800
1939	3,347	498	2,849	1,208	4,057	3,443	3,895
1940	4,514	673	3,841	1,502	3,343	3,520	4,037
1941	5,684	848	4,836	1,991	6,826	3,765	4,487
1942	3,849	575	3,274	1,265	4,539	3,914	4,868
1943	3,219	482	2,737	759	3,496	3,916	4,913

TABLE 27--Continued

Year	Total Equipment (1)	Business Durable Equipment (2)	Corporate Durable Equipment (3)	Business Construction (4)	Total Plant and Equipment (5)	Estimated Depreciation (Original Cost) (6)	Estimated Depreciation (Current Cost) (7)
1944	4,445	665	3,780	994	4,774	3,950	4,938
1945	6,077	909	5,168	1,635	6,803	3,977	5,003
1946	9,707	1,448	8,259	3,883	12,142	4,199	5,729
1947	12,669	1,888	10,781	4,668	15,449	5,220	7,897
1948	14,326	2,130	12,196	5,376	17,572	6,150	9,418
1949	12,909	1,911	10,998	5,200	16,198	6,750	9,768

*Source: Col. 1, Raymond W. Goldsmith, A Study of Saving in the United States (Princeton, New Jersey: Princeton University Press, 1955), I, 877.

Col. 2, Ibid., p. 891.

Col. 3, Col. 1 minus Col. 2.

Col. 4, Goldsmith, op. cit., p. 620.

Col. 5, Col. 3 plus Col. 4.

Col. 6, Goldsmith, op. cit., p. 955.

Col. 7, Ibid.

improved regardless of the method of accounting. Domar refers to the second effect as an "accounting paradox" which can be corrected by formal entries on the firm's books or "merely a mental note on the part of management."¹⁸⁹

Most arguments for accelerated depreciation as an inducement to invest are coupled with the assumption that the government allows this method for tax purposes. Eisner points this out as follows: "It is also important to have a clear notion that, on the one hand, depreciation allowances are, aside from tax considerations, merely a paper entry; they do not in themselves actually give the firm any funds. . . ."¹⁹⁰ Goode also emphasizes the tax aspect of accelerated depreciation in these words: "Introduction of accelerated depreciation stimulates investment by lowering a tax obstacle rather than by creating entirely new incentives. . . ."¹⁹¹ Goode also points out that investment can be stimulated in other ways, such as cutting tax rates and bringing down interest rates, but "accelerated depreciation has the advantage of being more selective in that the benefits are restricted

¹⁸⁹ Ibid.

¹⁹⁰ Robert Eisner, "Accelerated Depreciation: Some Further Thoughts," The Quarterly Journal of Economics, May, 1955, p. 293.

¹⁹¹ Richard Goode, "Accelerated Depreciation Allowances As a Stimulus to Investment," The Quarterly Journal of Economics, May, 1955, p. 219.

to those who acquire new depreciable assets. . . ." 192

In summary, from such evidence as is available the author is not at all convinced that businessmen make use of depreciation accounting as a guide in allocating funds to investment at the firm level. Certainly, investment expenditures of the economy as a whole do not bear any relationship to depreciation allowances. In the last analysis, the argument has validity, if at all, only if coupled with the saving in income taxes. If this is admitted, then it is not the accounting techniques themselves that are directly influencing the inducement to invest. Rather, the accounting methods merely become the vehicle for carrying out a particular governmental policy.

Accelerated depreciation for tax purposes may accentuate cyclical fluctuations. --As to the cyclical effects of allowing accelerated depreciation for tax purposes, there is substantial agreement that cyclical fluctuations would be accentuated. The following statement of Dobrovolsky is typical:

It seems, therefore, that the accelerated method might become a factor accentuating cyclical fluctuations of business, if it were generally adopted by industrial firms. In periods of prosperity, when most firms are expanding, tax considerations would provide an additional incentive for a heavy new investment; in periods of depression, when most firms are contracting, the plight of private business would be further aggravated by an increase in the tax burden. 193

192 Ibid.

193 S. P. Dobrovolsky, "Depreciation Policies and Investment Decisions," The American Economic Review, December, 1951,

However, it does not necessarily follow that the use of accelerated depreciation for tax purposes would accentuate cyclical fluctuations. Before this proposition can be evaluated, the use made of the extra taxes collected during the early years of the use life of the asset, assuming the use of traditional methods of depreciation for tax purposes, must be compared with the use made of the tax saving by the business firm, assuming accelerated depreciation is used in the computation of the income tax liability. Furthermore, even though most business investment is made during the upswing, a substantial portion of this investment may still be subject to accelerated depreciation during the depression years. Hence, the total income tax payments may be no larger during the depression years than if straight-line depreciation is used. In other words, when the total investment of the firm in fixed assets is considered, the period of increased depreciation charges may not be synchronized with the upswing and the period of decreased depreciation charges may not be synchronized with the downswing.

p. 910. For expressions of similar viewpoints see, John N. Bell, "Shall We Take Heavier Depreciation in Early Years?" N. A. C. A. Bulletin, November, 1955, pp. 341 f.; Evsey D. Domar, "The Case for Accelerated Depreciation," The Quarterly Journal of Economics, November, 1953, pp. 509 f.; and Goode, op. cit., pp. 203 f.

Tentative Conclusions on Accounting Profits
As an Accentuating Factor in Business
Fluctuations Via Business
Investment Expenditures

The thesis that business fluctuations are primarily the result of the ebb and flow in private investment expenditures has been accepted. The tentative conclusion was reached earlier¹⁹⁴ that, abstracting away technological change and the income tax structure, and assuming that: (1) businessmen invest in such a way as to maximize expected profits, (2) prospective profits are judged by past profits as measured by accounting techniques, and (3) businessmen are misled by these accounting profits, then accounting techniques do accentuate business fluctuations.

Since the large, widely-held corporation makes such a large percentage of the aggregate investment expenditures, it follows that the motivation of investment behavior in this type of corporation is particularly important. The assumption of profit maximization has been blunted in the case of the large corporation. This blunting of the profit motive weakens the link between investment decisions and profits, no matter how the amount of profit is determined. Furthermore, while the more realistic assumptions of secure profits, or satisfactory profits, can be integrated with long-run profit

¹⁹⁴ At the end of Chapter V.

maximization, the acceptance of profit maximization in the long-run as a norm of economic behavior would tend to weaken still further the link between accounting profits and investment decisions. To the extent that it is demand for the product that causes investment, rather than net profit alone, then the influence of accounting techniques on investment becomes even more tenuous. Here it would need to be established that the accounting methods influence the demand for the final product via the price of the product or that sales and profit are closely associated in the thinking of the businessman.

Even if the profit motive in its watered down version is accepted, such evidence as is available does not lend credence to the assumption that ex-post profits as measured by accounting methods are used in lieu of expected profits.

Even if the first two assumptions are valid, accounting profits are a factor in accentuating business fluctuations only in so far as businessmen are misled by these reported profits. This has been recognized by most of those who insist that accounting methodology does accentuate business fluctuations via investment. However, in the large corporations, investment decisions are not made lightly but only after running the gauntlet of a screening process and after the blending of financial, technological, and market factors in which economists, engineers, and accountants, as well as other specialists, are consulted. The picture so often painted of the businessman recklessly expanding

his business on the basis of "overstated" profits does not seem to fit into this pattern.

If it is accepted that a substantial part of investment in a dynamic economy is made as a result of technological advance, then much investment is more or less independent of current sales and profit. Thus, the effect of accounting profit on investment is further weakened in an economy largely dominated by technological change.

To the extent that investment decisions are motivated by profits after taxes, the accentuating effect of accounting methods on business fluctuations is further weakened since the difference between profits after taxes computed on the LIFO principle and traditional methods becomes smaller the larger the tax rate.

The link between accounting profits and security prices and that between security prices and investment are both weak, and the assumed pattern of investment behavior based on these two links is too simplified.

The argument that accelerated depreciation would act as a stimulus to investment boils down to an argument for the use of this method for tax purposes. It is the tax saving that is largely the stimulus and not the psychological effect of the more rapid write-off of the asset.

Thus the theoretical superstructure built up to support the thesis that accounting methods accentuate the cycle via its effect on

investment is built on a shaky foundation since none of the assumptions can be unqualifiedly accepted. Furthermore, when the pieces of the institutional framework, which have been abstracted away, are replaced, the effect of accounting profits on investment becomes even more tenuous.

The tendency for accounting profits to accentuate business fluctuations via investment has become weaker since this theory was first propounded by Schmidt. The nature of accounting profits is now better understood, especially in the large corporation, due to the publicity attending the adoption of Lifo for tax purposes, wartime excess profits tax, and the pronounced price rise following the Second World War. The evidence indicates that the practice of screening investment expenditures is growing. Higher income tax rates narrow the spread between profits reported under the Lifo principle and the traditional methods.

The evidence indicates that accounting methodology as an accentuating factor is more applicable to the smaller firm than to the larger firm. In the small firm, the profit motive is more direct. Also in the small firm, the understanding of the nature of accounting profits is possibly not as good. Autonomous investment is not as likely in the small firm due to the lack of research facilities and the fact that cash may not be available.

The nearer an industry approaches competitive conditions,

the more active the profit motive, the more important the cost calculations, and, hence, the possibility is greater that accounting methods will accentuate business fluctuations.

In the final analysis, the proposition that the businessman tends to look through rose-colored glasses during prosperity and through dark colored glasses during depression cannot be wholly vitiated. However, it would appear that on the basis of the evidence, the effect of this psychological reaction on investment decisions has been grossly exaggerated.

CHAPTER VII

AN EVALUATION OF THE CYCLICAL EFFECTS OF ACCOUNTING METHODOLOGY ON DIVIDEND POLICY AND ON WAGES

So far, the discussion of accounting methodology as an accentuating factor in business fluctuations has related to the investment function. It is also alleged that accounting methods of computing costs and profits affect the consumption function. The effects on consumption are supposed to take place through the relationship of accounting to dividend, wage, and price policy.¹ This side of the question is not unrelated, however, to the question of investment decisions. One writer has stated that ". . . dividend policy, the prospects for the future, and decisions concerning the investment and maintenance of capital are inseparably related. . . ."² The effect of accounting

¹The relationship of accounting to price policy is to be discussed in Chapter VIII.

²Catherine G. Ruggles, "The Relation of Corporate Surpluses to Income and Employment," The American Economic Review, December, 1939, p. 732.

on dividend policy is primarily related to the prosperity phase, although to a lesser extent, it has also been applied to the depression phase. The relationship of accounting methodology to wage policy is largely a development of the years since the Second World War and has thus been confined largely to the prosperity phase of the cycle.

Depreciation accounting has also received its share of criticism with respect to adverse effects on consumption. The effect of depreciation accounting on consumption is often discussed as if it were unrelated to dividend, wage, and price policy. The argument with respect to depreciation is essentially a depression argument and will be evaluated before investigating the effects of accounting upon dividend and wage policy.

An Evaluation of the Argument That Depreciation Allowances Have Adverse Effects on Consumption

The position taken by the advocates of this theory. -- Depreciation allowances have been endowed with much importance by some writers as having a depressing effect upon income, consumption, and employment. This theory is predicated on the belief that the provision for the depreciation allowance withdraws money that should be returned to the income stream, with the result that the prevailing level of income, consumption, and employment cannot be maintained. It is argued that not all the receipts taken in by the firm through sales is

counterbalanced by immediate cash outlays. While the outlay for tangible goods, direct labor, and certain overhead expenses return a portion of the firm's receipts to the income stream, the provision for depreciation does not return anything immediately.³ There is thus a "broken circuit" in the income stream.⁴ The authors of one publication have given their idea of the size of this "short circuit":

During a decade when business losses were running some TWO BILLION DOLLARS a year, there was, as we have but just seen, an ANNUAL excess of depreciation charges, over and above such losses and what was paid out on replacements, amounting to from TWO and THREE-TENTHS to some THREE BILLION DOLLARS. This is a big-money gap-of-deficiency we are talking about in this connection.⁵

This effect of depreciation allowances is thought to be particularly adverse in an economy characterized by extremes of prosperity and depression. Keynes expresses this viewpoint as follows:

In a stationary economy all this might not be worth mentioning, since in each year the depreciation allowances in respect of old houses would be exactly offset by the new houses built in replacement of those reaching the end of their lives that year. But such factors may be serious in a non-static economy, especially during a period which immediately succeeds a lively burst of investment in long-lived capital. . . .⁶

³Profit is also sometimes lumped in with depreciation and thus one detects a kinship to Marx's arguments.

⁴See Joseph E. Goodbar and Lorenzo U. Bergeron, A Creative Capitalism (Boston: Boston University Press, 1948), Chapter VI.

⁵Ibid., p. 99.

⁶John Maynard Keynes, The General Theory of Employment, Interest, and Money (New York: Harcourt, Brace and Company, 1935), pp. 99 f.

It is asked by this group of writers, if business cannot find offsets for its own depreciation allowances, then how can it find outlets for the new saving which a wealthy community will wish to make?⁷ This viewpoint was thought by Keynes to apply particularly to the United States:

In the United States, for example, by 1929 the rapid capital expansion of the previous five years had led cumulatively to the setting up of sinking funds and depreciation allowances, in respect of plant which did not need replacement, on so large a scale that an enormous volume of entirely new investment was required merely to absorb these financial provisions; and it became almost hopeless to find still more new investment on a sufficient scale to provide for such new savings as a wealthy community in full employment would be disposed to set aside. This factor alone was probably sufficient to cause a slump. . .
 8

Furthermore, the accumulated funds are sometimes thought of as hoarded, and presumably in liquid form. In this connection, one writer has said: ". . . In the case of the corporation, the idle money may accumulate in depreciation or depletion reserves, or in surplus account. In all cases, the effect is to interrupt the circuit of dollars."⁹ Add this tendency of the corporation to hoard to the fact that accountants, according to this school of thought, are said to

⁷Alvin H. Hansen, Fiscal Policy and Business Cycles (New York: W. W. Norton and Company, 1941), p. 346.

⁸Keynes, op. cit., p. 100.

⁹Stuart Chase, Idle Money Idle Men (New York: Harcourt, Brace and Company, 1940), p. 126.

overdepreciate and the argument is completed. Concerning this tendency for accountants to overdepreciate Chase has said: ". . . It was, and is, bad form to under-depreciate. It simply isn't done. The records must gallop ahead of moth and rust--far ahead. This is sound, conservative, universal accounting practice."¹⁰ This argument is the antithesis of the argument that accountants do not depreciate fast enough and, therefore, retard investment expenditures.¹¹

An evaluation of the theory. --In evaluating this argument, it may be well to clear up certain misconceptions that have arisen concerning the form in which the recovery of the capital investment is kept as well as the size of the depreciation charge compared to the expenditure on plant and equipment.

The impression is frequently left with the reader that the corporation segregates a sum of cash, or, at least, investments in readily marketable securities, for the purpose of replacing the asset when it is worn out--in other words, the depreciation allowance is funded. While this viewpoint is not always stated explicitly, it is difficult to see how there could be any argument that depreciation allowances create a "broken circuit" in the income stream without at least making this tacit assumption. The National Industrial Conference Board reported

¹⁰Ibid., p. 108.

¹¹See "An Evaluation of the Argument That Accelerated Depreciation Will Encourage a High Level of Investment," Chapter VI.

that only 1.4 per cent of the 572 cooperating corporations in their study funded depreciation allowances.¹² Thus the cash may be used immediately for the general purposes of the business, such as acquiring inventories, paying operating expenses, and acquiring fixed assets, and hence be returned to the income stream.

Much has been made of the fact that corporations have become more self-sufficient and that most of their needs for funds are being supplied internally. At least two researchers who studied corporations for the period when this argument was most in vogue failed to find this tendency. Koch in his study of a sample of 84 large manufacturing corporations and 27 large trade corporations for the period, 1921 to 1939, failed to note this tendency. Koch says: "Much of the recent discussion of big business financing implies that total funds retained from operations (internal funds) have become more and more important during the past two decades. Our samples of manufacturing and trade corporations do not present clear evidence of this. . . ."¹³ Dobrovolsky came to a similar conclusion in his study of manufacturing corporations for the period from 1915 to 1943. According to Dobrovolsky:

¹² James A. Finley, Handling Higher Depreciation Costs ("Studies in Business Policy No. 47"; New York: National Industrial Conference Board, 1950), p. 11.

¹³ Albert Ralph Koch, The Financing of Large Corporations 1920-39 (New York: National Bureau of Economic Research, 1943), p. 80.

Finally, it is important to note that, although there are many individual deviations from the general pattern of relationship, no general tendency can be observed for the ratio of internal to external financing, at given rates of corporate investment, to change over the period of time examined. In other words, allowing for variations in the rate of corporate investment, manufacturing corporations seem not to have become either more or less financially independent.¹⁴

In order to give an idea of the size of the discrepancy between depreciation charges to income and expenditures on plant and equipment, especially during the Great Depression, Table 28 is presented. The comparison of capital expenditures with depreciation allowances during the thirties is misleading since during some of these years earnings were not sufficient to cover expenses including depreciation--i. e., depreciation allowances were not earned. Therefore, the comparison is made between "earned depreciation" and expenditures on plant and equipment, since only to the extent that there are profits over and above depreciation, does the corporate system retain any funds because of the depreciation charge. From column 5 it can be seen that the deficiency in expenditures on plant and equipment compared with depreciation charges existed only for the years 1933 to 1935, inclusive, and for the year 1943. Throughout the remaining years expenditures on plant and equipment exceeded depreciation allowances by from \$233 million in 1938 to \$11,422 million in 1948.

¹⁴Sergei P. Dobrovolsky, Corporate Income Retention 1915-43 (New York: National Bureau of Economic Research, 1951), p. 6.

TABLE 28

A COMPARISON OF "EARNED DEPRECIATION" WITH CORPORATE EXPENDITURES ON PLANT AND EQUIPMENT,* 1929-1949
(MILLIONS OF DOLLARS)

Year	Estimated Depreciation		"Earned Profits after Tax"	Total Expenditures on Plant and Equipment	Excess of Expenditures over "Earned Depreciation"
	Original Cost	(1)	(2)	(3)	(4)	(5)
1929	3,871	8,420	3,871	7,401	3,530
1930	3,986	2,455	3,986	5,918	1,932
1931	4,003	-1,283	2,720	3,602	882
1932	3,693	-3,424	269	1,884	1,315
1933	3,496	-362	3,134	1,669	(1,465)
1934	3,362	977	3,362	2,246	(1,116)
1935	3,352	2,259	3,352	2,668	(684)
1936	3,286	4,273	3,286	3,716	430
1937	3,342	4,685	3,342	4,838	1,496
1938	3,352	2,289	3,352	3,585	233
1939	3,443	5,005	3,443	4,057	614
1940	3,520	6,447	3,520	5,343	1,823
1941	3,765	9,386	3,765	6,826	3,061
1942	3,914	9,433	3,914	4,539	625
1943	3,916	10,646	3,916	3,496	(420)
1944	3,950	10,808	3,950	4,774	824
1945	3,977	8,502	3,977	6,803	2,826
1946	4,199	13,881	4,199	12,142	7,943
1947	5,220	18,549	5,220	15,449	10,229
1948	6,150	20,734	6,150	17,572	11,422
1949	6,750	17,347	6,750	16,198	9,448

*Source: Col. 1, Raymond W. Goldsmith, A Study of Saving in the United States (Princeton, New Jersey: Princeton University Press, 1955), I, 955.

Col. 2, U. S. Department of Commerce, National Income--A Supplement to the Survey of Current Business, 1951, ed., Table I, p. 150.

Col. 3, Col. 1 plus Col. 2 when Col. 2 is negative, otherwise, Col. 1.

Col. 4, Col. 5 of Table 27.

Col. 5, Col. 4 minus Col. 3.

Note: () Indicates negative.

Thus it may be seen that, by comparing plant and equipment expenditures with depreciation allowances when earned, the picture is not so bleak as it is often painted. It is recognized, of course, that the usual danger of using aggregates is present: Many important differences are concealed. However, one cannot escape the conviction that the length of the period during which there was a deficiency of expenditures on plant and equipment as compared to depreciation allowances, as well as the amount of this deficiency, may have been overstated.¹⁵

One can admit that the depreciation charge is unique in that it does not represent an expenditure at the time that it is recorded.¹⁶ Provided depreciation charges are earned one can also agree with Neal that: "Accumulation of depreciation allowances without compensating replacement expenditures either in the same industry or somewhere else in the economy is likely to operate in the same direction as the maintenance of private saving; that is to say, in the face of a great fall in investment activity, it is likely to be deflationary for the economy as a whole."¹⁷ In this respect, corporate saving is, of course, no

¹⁵See statement of Goodbar and Bergeron, supra.

¹⁶Perry Mason rightly points out that this "uniqueness" is also shared by accrued expenses and the amortizable prepaid expenses. See, "The Financial Aspects of Depreciation Accounting," The Accounting Review, September, 1935, p. 238. However, due to the relative size of these items they will not be considered further.

¹⁷Alfred C. Neal, Industrial Concentration and Price Flexibility (Washington: American Council of Public Affairs, 1942), p. 149.

different from any other saving.

One can further admit that business "rolls its own."¹⁸ In fact, Dr. Oscar Altman of the Investment Banking Section of the S. E. C. stressed that the tendency of business to rely on internal financing was one of the main conclusions to be drawn from the testimony before the Temporary National Economic Committee. In the words of Dr. Altman: "The conclusions that emerge from this discussion of business internal and external financing may now be simply stated. Business enterprises are dependent upon capital markets for only a small part of the funds they invest annually in plant and equipment. . . ."¹⁹ One could even go further than Dr. Altman and conclude, contrary to the findings of Koch and Dobrovolsky,²⁰ that the tendency for internal financing was increasing. However, the fact that businesses "do not often need to go, cap in hand, to Wall Street to borrow money for the expansion of their plants"²¹ does not mean that total savings will necessarily be increased because corporate savings are. Dr. Alvin Hansen stressed in his

¹⁸ Chase, op. cit., Chap. V.

¹⁹ U. S. Congress, Savings and Investment, Hearings Before the Temporary National Economic Committee, Part 9, 76th Cong., 1st Sess. (Washington: U. S. Government Printing Office, May, 1939), p. 3696.

²⁰ See, supra.

²¹ Chase, op. cit., p. 109.

testimony before the T. N. E. C. that in order to prevent a fall in national income "it is necessary to have an offset for all saving."²²

Even if all the foregoing is admitted, in the final analysis the question of whether depreciation accounting and especially "excessive" depreciation allowances are depressing to the economy depends upon whether the recording of this depreciation causes the corporate system to take more from outside the system in the form of revenue or to pay out less as dividends than would occur if the depreciation charges were more "realistic". The effect of depreciation upon selling price will be evaluated in Chapter VIII, and the effect of accounting methodology upon dividend policy will be evaluated in the remainder of this chapter.

An Evaluation of the Cyclical Effect of
Accounting Methodology via
Dividend Policy

A statement of the position of those who believe that the mis-
statement of accounting profits influences dividend policy in such a way
as to accentuate business fluctuations. --Many of the writers on the ef-
fect of accounting methods on business fluctuations believe that the re-
ported profits unduly influence dividend policy. Lacey, for example,
has said: "Thus the conclusion seems irresistible that profits as now

²²U. S. Congress, op. cit., p. 3539. The question of whether a more liberal dividend policy will increase consumption expenditures is discussed later. See, An evaluation of the theory that as a result of accounting methodology corporate dividend policy accentuates the cycle, infra.

computed do deceive managements, at least to some extent, in their policy as to retained profits. . . ."²³ Another writer has stated that "the amount of profits as reported during any one period for individual firms may and probably does influence the amount of dividends paid to stockholders in relationship to the amount of profits retained for 'reinvestment'. . . ."²⁴

Furthermore, many writers believe that accounting methods influence dividend policy in such a way as to accentuate the cycle. It is argued that, since more money will be distributed as dividends from the overstated profits during prosperity, the effect must be inflationary since it will increase the demand for goods. Schmidt, for example, argues: ". . . If the paid-out dividends are too high because of depreciation's being too low, there will be plenty of money in the buying market for consumption goods, accompanied by a rise of prices. . . ."²⁵ More recently, Adams has expressed the same opinion: "The effect of these increased dividend disbursements on the economy is inflationary, since larger incomes mean greater potential demand, which

²³K. Lacey, Profit Measurement and Price Changes (London: Sir Isaac Pitman and Sons, Ltd., 1952), p. 22.

²⁴Eldon S. Hendriksen, "The Influence of Depreciation Accounting on National Income," The Accounting Review, October, 1951, p. 509.

²⁵Fritz Schmidt, "The Basis of Depreciation Changes," Harvard Business Review, April, 1930, p. 263.

means higher prices and a continuation of the inflationary merry-go-round. . . ."²⁶

Thus in evaluating this argument it is necessary, first, to determine whether dividend policy is unduly influenced by reported profits and, second, whether, even though dividend policy is unduly influenced by the reported profits, this would tend to accentuate the cycle.

An evaluation of the argument that the misstatement of profits unduly affects dividend policy. --Butters and Niland have shown that dividends are more closely related to reported profits than to profits adjusted for inventory profits and losses.²⁷ They plot the dividends paid by all corporations²⁸ from 1933 to 1948 "against reported profits after taxes and such profits adjusted for inventory gains and losses."²⁹ They conclude that: "The closer relationship which these charts show between dividends and profits as reported (without the inventory adjustment) constitutes at least suggestive evidence that corporate directors

²⁶Walter Adams, "Accounting Practices and the Business Cycle," The Journal of Business, April, 1949, p. 127.

²⁷J. Keith Butters and Powell Niland, Effects of Taxation--Inventory Accounting and Policies (Cambridge: The Riverside Press, 1949), p. 110.

²⁸Taken from figures reported by the U. S. Department of Commerce.

²⁹Ibid.

in the aggregate look more to stated profits than to adjusted profits (which more nearly approximate disposable profits) in determining dividend policies. . . ."³⁰

Butters and Niland attribute this closer relationship to two factors. The attitude of management toward dividends is "undoubtedly influenced by the amount of profits currently reported. The feeling of prosperity, confidence, and sometimes even carelessness, engendered by a favorable profit showing will affect the dividend decisions of many managements though not all. . . ."³¹ As to the second factor the authors state:

Stockholder pressure constitutes the second main reason causing dividends to fluctuate in relation to reported profits. Stockholders, by and large, regard reported profits as an indication of an ability to pay dividends and feel entitled to dividend increases when profits rise sharply. . . ."³²

Hendriksen also concurs in this belief: ". . . The higher the rate of reported profits, the greater will be the demand by stockholders for higher or 'reasonable' dividends. . . ."³³

Before jumping to the conclusion, however, that managements

³⁰Ibid.

³¹Ibid., p. 108.

³²Ibid., p. 109.

³³Hendriksen, op. cit., p. 509.

of corporations will recklessly pay out reported profits as dividends if the profits are overstated, it should be pointed out that reported profits are only one factor in the determination of the amount to be declared as dividends. The payment of a dividend is a legal as well as a financial problem. It may be said that, in general, the amount of reported profits only sets the maximum amount that can be paid as dividends in the long run. In the short run, dividends may be paid in many cases from accumulated earnings of the past, even if no profit is being currently earned.³⁴ Furthermore, since all reported earnings do not need to be paid out as dividends, management is left with a wide margin of discretion in its dividend policy with any given reported earnings. One famous writer in the field of corporate finance has stated that management has already discounted the reported profits as a factor in dividend policy due to their lack of faith in these figures. "A determining factor of dividend policy--that of lack of confidence in the accounting methods of the corporation--is always in the background of the minds of corporate directors... . . ."³⁵

The amount of cash available at the time of the declaration of the dividend is also an important factor. As one pair of writers has

³⁴Butters mentions this possibility.

³⁵Arthur Stone Dewing, The Financial Policy of Corporations (5th ed.; New York: The Ronald Press Company, 1953), I, 752.

stated: "While it is customary to speak of paying dividends 'out of profits', a cash dividend can only be paid from money in the bank."³⁶ Thus while the presence of retained earnings and reported profits is an accounting phenomenon, "the joker lies in the fact that earnings and money are not synonymous."³⁷

In a period of rising prices, two situations need to be distinguished. First, the earnings may be locked up in receivables. Assuming, however, that these receivables are collectible, within a short time the earnings should be available for dividends. Second, the earnings may have already been converted into assets that are not readily distributable as dividends. In this case, the decision to increase the capital investment has already been made, "and the decision as to dividends connotes an already accomplished fact."³⁸

The problem of tying up profits in non-cash assets is particularly acute when the volume of business is rising. This requires a bigger investment in inventories as well as the carrying of larger receivables, and since the payment of dividends is considered at periodic intervals, the cash balance and current position are likely to appear

³⁶H. G. Guthmann and H. E. Dougall, Corporate Financial Policy (2nd ed.; New York: Prentice-Hall, Inc., 1948), p. 468.

³⁷Jackson Martindell, The Scientific Appraisal of Management (New York: Harper and Brothers, 1950), p. 141.

³⁸N. S. Buchanan, "Theory and Practice in Dividend Distribution," The Quarterly Journal of Economics, November, 1938, pp. 69 f.

more relevant than current income, or the amount of retained earnings in determining dividend policy. In large corporations, particularly, the movement of "free" cash "shows an inverse correlation with the profit rate. . . ." ³⁹ Thus, a corporation may perpetually find itself short of funds out of which to pay dividends during the upswing even though it may be earning profits.

As to the second reason given for reported profits unduly influencing dividend policy--the clamor of stockholders for larger dividends--there is far from universal agreement. Dewing thinks that boards of directors generally have not succumbed to stockholder pressure. He states that ". . . viewing the matter broadly it is distinctly to the credit of the majority of American businessmen who reach higher managerial positions that their natural insight enriched by a wide experience is sufficient to protect the stockholders against their own avarice in demanding larger dividends than prudence justifies." ⁴⁰ The stock dividend is used to some extent as a device to allay the clamor by stockholders for greater dividends during periods of high profits but low cash balances. ⁴¹

³⁹ Friedrich A. Lutz, Corporate Cash Balances 1914-43 (New York: National Bureau of Economic Research, 1945), p. 5.

⁴⁰ Dewing, op. cit., pp. 754 f.

⁴¹ See, Ward Gates, "New Dividend Trends Shaping Up," The Magazine of Wall Street, October 4, 1952, p. 13.

In spite of their conclusions drawn from aggregate corporate profit and dividend data, Butters and Niland⁴² report a diversity of reaction in their field interviews toward reported profits in determining dividend policy.⁴³ Executives of some companies have reported that dividend payments "are responsive to fluctuations in reported profits. Officers of other companies . . . have stated that their dividend decisions are governed by their company's need for funds as shown by projected cash budgets and that little attention is given to the level of profit as such."⁴⁴ Brown in his interviews⁴⁵ states that: "Our field work indicates that firms would be affected differently by a change to replacement-cost depreciation. Some indicated that it had been somewhat effective in blunting dividend demands."⁴⁶

In order to throw some light on the question as to how closely dividends follow reported profits Table 29 is presented. As shown by the table, dividend policy has been extremely conservative in the post-

⁴² See conclusions, supra.

⁴³ Butters and Niland, op. cit., p. 109.

⁴⁴ Ibid.

⁴⁵ For a description of Brown's interviews see, The nature of accounting profits is now better understood than in the period before the beginning of the Second World War, Chapter VI.

⁴⁶ E. Cary Brown, Depreciation Adjustments for Price Changes (Cambridge: The Riverside Press, 1952), p. 86.

TABLE 29

A COMPARISON OF CORPORATE PROFITS AND CORPORATE DIVIDENDS, 1919-1953^a (BILLIONS OF DOLLARS)

Year	Profits after Taxes (1)	Dividends (2)	Dividends as Per Cent of Profit (3)
1919	5.7	2.9	50.9
1920	3.9	2.9	74.4
1921	0.5	3.0	600.0
1922	3.9	2.9	74.4
1923	5.2	3.8	73.1
1924	4.3	3.5	81.4
1925	5.5	3.9	70.9
1926	5.8	4.4	75.9
1927	5.1	4.6	90.2
1928	6.3	4.9	77.8
1929	8.0	5.7	71.3
1930	2.3	5.5	239.3
1931	-1.3	4.1	. . b
1932	-3.4	2.6	. . b
1933	-0.4	2.1	. . b
1934	0.9	2.6	288.9
1935	2.0	2.8	140.0
1936	4.2	4.5	107.1
1937	4.6	4.7	102.2
1938	2.0	3.0	150.0
1939	4.8	3.6	75.0
1940	6.3	3.9	61.7
1941	9.1	4.3	47.3
1942	9.2	4.2	45.7
1943	10.2	4.3	42.2
1944	10.0	4.6	46.0
1945	8.1	4.6	56.8
1946	13.0	5.6	43.1
1947	17.6	6.3	35.8
1948	19.4	7.0	36.1
1949	15.0	7.1	47.3
1950	21.1	8.8	41.7
1951	17.5	8.7	49.7
1952	16.1	8.8	54.6
1953	17.1	8.9	52.0

^aSource: 1919-1928, All columns, James A. Finley, Handling Higher Replacement Costs ("Studies in Business Policy No. 47"; New

war years. During this period the percentage paid out ranged from a low of 35.8 in 1947, the year in which profits are alleged to be the most overstated, to a high of 56.8 in 1945. These figures should be compared with 75 per cent for the prewar year of 1939, and with 90.2 per cent and 71.3 per cent for the prosperous years of 1927 and 1929. During the years 1930 to 1938, more was paid out in dividends than was earned. Thus it may be seen that dividends are not tied closely to profits and that the "misstatement" of accounting profits has been partially compensated for by the dividend policy of the corporate system. In other words, roughly the same thing was accomplished dividend-wise as would have been had profits been more "realistically" reported.

In order to shed some light on the relationship of the misstatement of profits to dividend policy two questions might be raised. First, in the years in which profits were said to be overstated, were retained earnings of all corporations at least equal to the overstatement of profits? Second, in the years in which profits were said to be understated, did all corporations pay out dividends in excess of

York: National Industrial Conference Board, July, 1950), p. 6.
1929-1953, Col. 1 and Col. 2, U. S. Department of Commerce,
National Income--A Supplement to the Survey of Current Business
(Washington: U. S. Government Printing Office, 1954), Table 7,
pp. 168 f.

^bNot computable.

these understated profits in an amount at least equal to the understatement? Table 30 shows that in the seventeen years of profit overstatement from 1929 to 1949, retained earnings were at least equal to the

TABLE 30

A COMPARISON OF THE MISSTATEMENT OF CORPORATE
ACCOUNTING PROFITS WITH RETAINED EARNINGS^a
1929-1949 (MILLIONS OF DOLLARS)

Year	Misstatement of Profits	Retained Earnings
1929	389	2,597
1930	(2,716) ^b	(3,045) ^b
1931	(2,153)	(5,381)
1932	(1,164)	(5,998)
1933	2,039	(2,428)
1934	828	(1,619)
1935	457	(613)
1936	968	(284)
1937	519	(8)
1938	(505)	(906)
1939	1,176	1,209
1940	728	2,398
1941	3,205	4,921
1942	2,170	5,136
1943	1,770	6,153
1944	1,275	6,128
1945	1,590	3,803
1946	6,793	8,073
1947	8,576	11,988
1948	5,418	13,484
1949	1,075	9,795

^aSource: Misstatement of profits--Table 6, column 3 Retained earnings--U. S. Department of Commerce, National Income--A Supplement to the Survey of Current Business (Washington: U. S. Government Printing Office, 1951), Table 1, p. 150.

^bNote: () Indicates understatement of profit and negative retained earnings.

overstatement in all years except the five years, 1933 to 1937. Since these years were years of depressed business, it is difficult to see how this could have accentuated the cycle. In every one of the four years in which profits were said to be understated dividends were paid in an amount exceeding this understatement. Relative to depreciation on a replacement cost for the depression years 1931 to 1936, Gaston has written:

Would such a calculation in those years of depression and early recovery have had any effect upon dividend policy, or investment by corporations? Since income was larger, would dividends be larger? It seems rather unlikely that such would be the case. . . .⁴⁷

In conclusion, the declaration of dividends is a legal and financial problem as well as an accounting problem. Reported profits establish an upper limit in the long run for dividend payments. Dividends can be paid if there are accumulated earnings of the past and are not necessarily limited by current profits. Likewise, boards of directors need not pay out all current earnings. On the upswing the need for additional working capital limits dividends even though earnings may be high. The evidence over the years since 1929 does not indicate that the "misstatement" of accounting profit in any one year has unduly influenced boards of directors relative to dividend policy.

⁴⁷J. Frank Gaston, Effects of Depreciation Policy ("Studies in Business Economics No. 22," New York: National Industrial Conference Board, January, 1950), p. 15.

An evaluation of the theory, that as a result of accounting methodology, corporate dividend policy accentuates the cycle. --Even if the theory that the misstatement of accounting profits unduly influences corporate dividend policy were accepted, the question of whether the paying out of more dividends during prosperity and less during depression due to this misstatement accentuates the fluctuations of business as a whole would remain to be considered.

If the corporation retains more funds in the business during prosperity due to the more "realistic" reporting of profits, the result is not necessarily stabilizing. The result will depend upon what the corporation does with the retained earnings versus what the stockholders would do with the increased dividends that it is alleged they receive as a result of the overstatement of profit. As one writer has stated: ". . . the payment of dividends will affect the general economic activity only if the recipients dispose of these payments in a way different from that which would have occurred if the corporations had refrained from paying dividends."⁴⁸

If the corporation retains funds in the business, it must have a purpose for doing so. Just what the corporation does with these funds will depend, among other factors, upon the phase of the cycle in which the decision is to be made.⁴⁹ During prosperity, when it is alleged

⁴⁸ Hendriksen, op. cit., p. 509.

⁴⁹ Lawrence R. Klein also states that it depends upon the age

that the cutting down of dividends would be deflationary, if the firm used the retained earnings to increase its outlays on inventories and fixed plant, the result is, of course, expansionary. If the firm used the funds to buy the securities of other companies or to lend for others to buy securities, the result might also be a contribution to the speculative fever. According to many writers this factor contributed to the boom of 1928 and 1929. Wilbur, for example, mentions this influence:

. . . the funds which have been withheld from the stockholders during business prosperity are apt to be drawn, by higher rates and greater liquidity offered, to open-market borrowers and call-money markets, where their presence goes to expand short-term credit and helps to bring about the very inflation which was to be so carefully avoided. This country's experience in 1928 and 1929 revealed what a tremendous force for inflation and speculation the pouring of surplus cash of corporations into the call-lean market may be. . . .⁵⁰

Lutz also mentions this possibility.⁵¹

During the depression phase, on the other hand, if we assume that the stabilization of reported profits would cause more dividends to be paid out than otherwise, the result would be stimulating to business provided the dividend recipients used the receipts for consumption

of the firm and of the industry, see, "Saving Concepts and Data: The Needs of Economic Analysis and Policy," Savings in the Modern Economy, ed. by W. Heller, Francis M. Boddy, and Carl L. Nelson (Minneapolis: The University of Minnesota Press, 1953), p. 109.

⁵⁰ Donald E. Wilbur, "A Study of the Policy of Dividend Stabilization," Harvard Business Review, April, 1932, p. 376.

⁵¹ Lutz, op. cit., p. 1.

expenditures.⁵² One writer has stated this as follows: ". . . If the prospects for profit were very unfavorable, such funds would probably not be used to maintain capital but would be hoarded, and as between hoarding the funds and paying them out in dividends, the latter is much to be preferred because it will help to maintain the level of consumption and therefore of investment. . . ."⁵³ It has already been shown that, according to Lutz, during the depression large corporations were inclined to maintain idle cash balances.⁵⁴

The retirement of bank debt in lieu of dividend payments is also a possibility during depressions. Lutz thinks there is evidence that this may have happened in case of medium-sized and small corporations, especially, during periods of contraction. According to Lutz: ". . . Relatively great losses for these companies and probably also the retirement of bank debt absorbed the liquid funds that would otherwise have been accumulated. . . ."⁵⁵

Thus an a priori case can be made that dividend stabilization is inflationary in both boom and depression. There is no reason to suppose that the retaining of more funds during prosperity, due to

⁵²This, however, is problematical as will be shown, infra.

⁵³Ruggles, op. cit., p. 732.

⁵⁴See, Cash position as a factor in investment decisions, Chapter VI.

⁵⁵Lutz, op. cit., p. 7.

accounting methods designed to equalize profits, will be stabilizing, since the corporation will probably use the funds for investment during this phase. Since, during the depression, some of the stockholders could be expected to use the funds for consumption, there is more reason to suppose that the paying out of more dividends during this phase of the cycle would be stabilizing.

Attention will now be directed to the use of funds which are paid out as dividends by the corporation during the prosperity phase, assuming that accounting methods cause more to be paid out as dividends than would be the case if the profits were reported on an "economic" basis.

First it must be considered that since reported profits are higher and if these reported profits are actually paid out, then the government will get a substantial slice in the form of individual taxes which it would not have received had the corporation retained the funds. Whether the amount going to the government will be used in such a way as to contribute to inflation will depend upon the fiscal and monetary policies that happen to prevail at that particular time. If the government uses the extra tax revenue to retire debt, then this would tend to be stabilizing during the prosperity phase. If the government used the additional revenue for expenditures, then the results may be approximately the same as if the corporation had retained the profits in the

business and used them for expansion. Thus the use of funds by the corporation versus paying dividends and the consequent sharing of these dividends by the government cannot be evaluated except in particular instances. However, in recent years, since the government has largely used the income taxes for current expenditure rather than for the retirement of the public debt, there is no reason to suppose that this use of the funds by the government would be any less inflationary than if the corporation had retained the funds and used them for investment.

This still leaves for consideration the use of the residual (after income taxes) which goes to the stockholders. As a first step in tracing the effect upon business fluctuations of paying out varying amounts in dividends based on alternative accounting methods, the question of the income level of the dividend recipients is pertinent.

Goldsmith in a study of the ratios of concentration of various sources of income found interest and dividends to be highest in concentration.⁵⁶ In fact, it has been pointed out that the concentration of dividend income accounts for the major part of the wide spread between the income of individuals.⁵⁷ For example, "the major share of

⁵⁶ Selma F. Goldsmith, "Statistical Information on the Distribution of Income By Size in the United States," Papers and Proceedings of the Sixty-second Annual Meeting of the American Economic Association in The American Economic Review, May, 1950, p. 327.

⁵⁷ Martin Taitel, Profits, Productive Activities and New

the difference between the average \$50,000 income and the average \$1,000,000 income is due to the difference between the average amount of dividends included in those incomes. . . ."⁵⁸ More specifically, a rough distribution of dividends has been given as follows:⁵⁹ Forty per cent of the dividends is received by less than one-tenth per cent of families and single individuals; another twenty per cent is received by less than one per cent of the families and single individuals; another twenty per cent is received by less than two per cent of the families and single individuals; and the remaining ninety-six per cent of the families and single individuals, with most of them receiving no dividends.

As to the income groups receiving dividends Taitel states that between forty and fifty per cent of all dividends were received by individuals with incomes of "20,000 or more 1935-36 dollars."⁶⁰ Another twenty to twenty-five per cent were received by individuals with incomes between "5,000 and 20,000 1935-36 dollars."⁶¹ Thus, between 60 and

Investment ("Temporary National Economic Committee Monograph No. 12"; Washington: U. S. Government Printing Office, 1941), p. 52.

⁵⁸ Ibid.

⁵⁹ Ibid., p. 50.

⁶⁰ Ibid., p. 56.

⁶¹ Ibid.

75 per cent of all dividends were received by individuals with incomes of \$5,000 or more. Another writer has stated that in 1937 probably fewer than 10 per cent of all individuals with incomes under \$1,000 owned stock; 70 per cent of those with incomes of \$10,000 and over and 94 per cent of those with incomes of \$50,000 owned stock.⁶² Furthermore this pattern of distribution was of long standing. Taitel concludes that "there has been no marked change in the relative distribution of dividends according to income level of recipients during the past two decades."⁶³ Goldsmith showed that a movement toward equality of incomes did take place from 1935-36 to 1944 and attributed this to the declining importance of interest and dividends during those years.⁶⁴ This movement, however, was arrested in 1945.⁶⁵

Thus, if the amount of dividends going to stockholders is modified by accounting methods, it affects the amounts going to the highest income groups since stock ownership in the major corporations is highly concentrated and, hence, dividend receipts are highly concentrated. In view of the low propensity to consume of these dividend

⁶² Raymond W. Goldsmith, The Distribution of Ownership in the 200 Largest Nonfinancial Corporations ("Temporary National Economic Committee Monograph No. 29"; Washington: U. S. Government Printing Office, 1940), p. 10.

⁶³ Taitel, op. cit., p. 56.

⁶⁴ Selma F. Goldsmith, op. cit., p. 335.

⁶⁵ Ibid., p. 337.

recipients, it is difficult to believe that, due to accounting methods, the paying out of more dividends during the depression phase, and less during the prosperity phase, would greatly modify consumers' expenditures. Thus it is not a foregone conclusion that the effect on consumption caused by the stabilization of reported corporate earnings would materially affect the level of national income.

Conclusions on Accounting Profits, Dividend Policy, and Business Fluctuations

The evidence does not support the supposition that reported profits have unduly influenced dividend policy. On the contrary, boards of directors--consciously or unconsciously--in their dividend policies have gone a long way toward neutralizing the effects of accountants' "misstatement" of net profits. Neither is it a foregone conclusion that, even if more funds have been dispensed as dividends during prosperity or less during depression, the cycle is thereby accentuated. The evidence shows that a large proportion of dividend recipients would probably not use the extra dividends for consumption anyway. During the depression, if we could assume that more dividends would be distributed if profits were reported on a so-called economic basis--which is very problematical--it still does not necessarily follow that consumption expenditures would thereby be stimulated.

Since dividends are considered by many writers to constitute

one of the main factors determining the price of securities.⁶⁶ and since it has been shown that there is no close association between accounting profits per year and the payments of dividends in that year, it follows that the causal links between accounting profits, dividend policy, security prices, the ease or difficulty of raising monetary capital, and decisions to invest in plant and equipment are so weak that no one can say with assurance that accounting methods accentuate business fluctuations through this chain.

In the discussion of the adverse effects of "excessive" depreciation allowances on consumption during depression, it was concluded that one way in which this could occur was through its influence on dividend policy.⁶⁷ Aside from its effects on investment expenditures⁶⁸ if dividend policy is not unduly affected by accounting profits, it is difficult to see how excessive depreciation accounting prevented the returning of money to the income stream that otherwise would have been returned.

⁶⁶See, "Some Further Considerations of the Effect of Accounting Profits on Investment Decisions Via Security Prices," Chapter VI.

⁶⁷See discussion, supra.

⁶⁸which has already been evaluated.

The Cyclical Effect of Accounting
Methodology on Wage Policy

Statements of those who believe that wages are affected by accounting methods. --Many of the writers who believe that accounting methods accentuate the cycle state that wage policy as well as dividend policy is affected. One of the earlier writers on the subject said:

" . . . Increased wages and extraordinary dividend payments, both of which grow out of the misinterpretation of 'profit', enhance the demands of consumers for the products of industry all along the line. . . ." ⁶⁹

A later writer has expressed a similar point of view: "The existence of large money profits during a period of rising prices prompts the entrepreneur not only to increase dividend disbursements but also to grant often substantial wage increases, particularly in industries where strong trade-union organizations can make their pressure felt. . . ." ⁷⁰

This point of view has been expressed by many other writers. ⁷¹

⁶⁹George E. Putnam, "The Role of Paper Profits in Industry," Harvard Business Review, January, 1926, p. 135.

⁷⁰Walter Adams, "Accounting Practices and the Business Cycle," The Journal of Business, April, 1949, p. 127.

⁷¹See, for example, Fritz Schmidt, "Is Appreciation Profit?" The Accounting Review, December, 1931, p. 289; Henry B. Arthur, "Something Business Can Do About Depressions," The Journal of Accountancy, January, 1939, p. 10; H. T. McAnly, "Curbing the Effect of Our Erratic Dollar in Pricing Inventories and Providing for Depreciation," The New York Certified Public Accountant, August, 1948, p. 576; Willard J. Graham, "The Effect of Changing Price Levels Upon

Thus it may be seen that this connection between accounting methods and business fluctuations is applicable to the prosperity phase. Since this argument reached a crescendo in the early postwar years, the labor-management controversy of these years, as well as the relationship of accounting methods thereto, will now be reviewed.

The contentions of organized labor. --In the early postwar years the leaders of organized labor argued that prices and wages were out of balance.⁷² As a result, profits had risen faster than wages.⁷³ In fact, profits were reaped at the expense of wages.⁷⁴ Therefore, the purchasing power of labor was being destroyed. This thought was expressed by one labor spokesman as follows: "We believe present profits are far too high. We believe this because we are convinced that present profits will destroy the purchasing power base which is essential to maintenance of prosperity and full employment. . . ."⁷⁵

the Determination, Reporting, and Interpretation of Income," The Accounting Review, January, 1949, p. 20; and Hendriksen, op. cit., p. 510.

⁷² Robert R. Nathan, "Sharp Bust Would Follow Continued Profit-Wage Distortions," The Commercial and Financial Chronicle, April 10, 1947, p. 1962.

⁷³ Robert R. Nathan and Oscar Gass, A National Wage Policy for 1947, An Analysis Prepared for the Congress of Industrial Organization (Washington: Robert R. Nathan Associates, December, 1946) p. 9.

⁷⁴ Philip Murray, "The Gap Between Prices and Wages," The Atlantic Monthly, July, 1948, p. 25.

⁷⁵ Testimony of Donald Montgomery, UAW-CIO, Chief,

Furthermore, "Wage increases could have been taken out of the high profit margins, and industry would have continued to operate on a profit--but one that was more reasonable. . . ." ⁷⁶ Since labor leaders did not expect prices to be reduced voluntarily, then wages must be increased. ⁷⁷ Labor leaders thus supported an underconsumption theory of the cycle. ⁷⁸

The management point of view. --According to the viewpoint of management, profits should have no bearing on the wage bargaining. ⁷⁹ Wages should be determined on the basis of productivity. ⁸⁰ Even if profits were a factor, business executives insisted that actual profits were lower than reported profits because of fictitious inventory

Washington Office United Automobile Workers, U. S. Congress, Profits, A Report of A Subcommittee of the Joint Committee on the Economic Report on Profit Hearings, 80th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 30.

⁷⁶ Murray, op. cit., p. 26.

⁷⁷ Nathan, The Commercial and Financial Chronicle, op. cit., p. 1962.

⁷⁸ See, Jules Backman, Economics of a Fourth Round Wage Increase, Testimony on Behalf of Steel Companies Before the Presidential Steel Board, August, 1949, p. 167.

⁷⁹ W. S. Woytinsky and associates, Labor and Management Look at Collective Bargaining (New York: The Twentieth Century Fund, 1949), p. 89.

⁸⁰ Bachman, op. cit., p. 37.

gains and inadequate depreciation allowances.⁸¹ Furthermore, it was contended that a good share of the profits were needed in the business to provide for further expansion and improvements, thus benefiting workers as well as stockholders in the long run. In this contention corporate executives had the support of many economists. Dean, for example, states: ". . . From the standpoint of labor, capital expenditures are the basic economic source of future wage advances since they embody the creative forward strides of advancing technology. . . ."⁸² Since labor is a cost that must be incorporated in the price of the final product, if wages were raised, then prices must be increased to cover the increased labor cost.

This divergence in points of view between labor leaders and the managers of corporations as to the role of profits may now be summarized. The businessman regards profits as earnings available for stockholders or to be reinvested in the business. Leaders of organized labor regard profits as a residue to be shared in the form of higher wages.

The relationship of accounting to the controversy. --Accounting

⁸¹See, The nature of accounting profits is now better understood than in the period before the beginning of the Second World War, Chapter VI.

⁸²Joel Dean, "Measuring the Productivity of Capital," Harvard Business Review, January--February, 1954, p. 120.

methods were injected into the controversy through the "ability-to-pay" criterion. One writer has said: ". . . If, for example, the "ability to pay" principle were eliminated as a criterion in wage-price disputes, the facts on the profits of an industry or firm would be considered irrelevant. . . ."⁸³ This criterion, of course, enters indirectly into every wage negotiation.⁸⁴ Although the recognition of the ability-to-pay argument is not new,⁸⁵ it was popularized by Walter Reuther in 1945.⁸⁶ Moreover, in the postwar profit-price-wage controversy, labor leaders made it plain that by "ability-to-pay" they were referring to reported profits. Ruttenberg, for example, stated: ". . . In the judgment of the CIO, profits are profits regardless of the source from which they are derived. Inventory profits are money and the money can be used by the corporation for whatever purpose they see fit."⁸⁷ It

⁸³Harold H. Wein, "Wages and Prices--A Case Study," The Review of Economic Statistics, May, 1947, p. 108.

⁸⁴Ernest Dale, Sources of Economic Information for Collective Bargaining, ("Research Report No. 17"; New York: American Management Association, 1950), p. 115.

⁸⁵Z. Clark Dickinson gives an example of the use of financial reports in wage negotiations in the printing industry as early as 1919, see, Collective Wage Determinations (New York: The Ronald Press Company, 1941), p. 206.

⁸⁶Joel Dean, Managerial Economics (New York: Prentice-Hall, Inc., 1951), p. 31.

⁸⁷Testimony of Stanley H. Ruttenberg, U. S. Congress, Profits, op. cit., p. 41.

may thus be argued that accounting methodology contributed to the postwar wage—price spiral since, if profits had been reported on a more "realistic" basis, this would have allayed the demands of organized labor.

An evaluation of the contribution of accounting methodology to the postwar wage-price spiral. --Before it can be said that accounting methods contributed to the postwar wage-price spiral, it is necessary to show that: (1) the granting of the wage increases caused the higher prices, (2) ability-to-pay was a significant factor in the granting of the pay increases, and (3) if profits had been more "realistically" reported, wage demands would have been blunted.

Slichter has pointed out that the relationship of wages to prices is a twofold relationship: a cost-price and a demand-price relationship.⁸⁸ He also believes that: "The wage increases of the period have affected prices mainly as a source of demand rather than as costs. . . ."⁸⁹ This is based on the absence of a close relationship between the wage increases granted and the advances in the prices of the final product.⁹⁰ Furthermore, less than half of the increase in the demand for consumer goods during the last two years has been caused by higher

⁸⁸ Sumner H. Slichter, "Wages and Prices," Proceedings of the Academy of Political Science, XXIII (1948-1950), 47.

⁸⁹ Ibid., p. 50.

⁹⁰ Ibid.

wages in private industry.⁹¹ Personal consumption expenditure between 1945 and 1947 rose by \$20.7 billion; wage and salary payments rose by \$14.8 billion, of which \$5.3 billion resulted from the growth in the labor force, and \$9.5 billion arose from higher wages.⁹² Therefore, Slichter concludes that only about 45 per cent of the increased demand during this period can be attributed to higher wages, which indicated the importance of other expansionary forces.⁹³ Another writer has given the following summary of the forces contributing to the postwar inflation: ". . . Forces other than labor also contributing to the inflation were the higher incomes and expenditures of farmers, proprietors and other high-income groups, the eagerness to procure goods, dishoarding, reduction in the proportion of savings, the growth in mortgage debt on urban real estate, and large federal and local expenditures for domestic and international purposes."⁹⁴ This writer concludes that: "The wage-price spiral was, therefore, a cause of inflation but not the sole cause nor even a sufficient cause to bring about

⁹¹ Ibid.

⁹² Ibid., pp. 50 f.

⁹³ Ibid., p. 51. Slichter mentions as other forces: (1) the tendency for individuals to save a declining proportion of their rising incomes, and (2) the holdings of cash and demand deposits were high relative to prices and expenditures, ibid.

⁹⁴ Walter A. Morton, "Trade Unionism, Full Employment and Inflation," The American Economic Review, March, 1950, p. 17.

the degree or price change that has taken place. . . ." ⁹⁵

Attention is now directed to the relationship of the ability-to-pay criterion to the granting of the wages increases. First, it should be pointed out that ability-to-pay is only one of a number of criteria used in requesting and granting wage increases. Taylor states that ". . . there is no one criterion of wage determination which is universally applicable. The criteria differ with the industry, the phase of the business cycle and the business problems that have to be faced at certain times. . . ." ⁹⁶ Backman mentions five criteria that emerged from wage negotiations. ⁹⁷ A good many unions do not make use of the ability-to-pay criterion in wage negotiations. One writer on labor-management relations has pointed this out in these words: "It should be noted that there are many unions and union spokesmen who never have been and are not now interested in a company's ability to pay. . . ." ⁹⁸ Furthermore, the ability to pay is usually coupled with other criteria such as the cost of living or a comparison with wages in other firms in the same industry and with other industries. ⁹⁹

⁹⁵Ibid.

⁹⁶George W. Taylor, "Criteria for Wage Determination," Management Record, June, 1949, p. 242.

⁹⁷Taylor, op. cit., pp. 1 f.

⁹⁸Dale, op. cit., p. 118.

⁹⁹Wilbur F. Pillsbury, The Use of Corporate Financial Statements and Related Data by Organized Labor ("Indiana Business Report

Writers on the subject of the use of financial information stress that financial statements are not the principal factor in wage negotiations. One writer has said that: "Financial statements will never be the principal factor in labor disputes. Labor relations although centering on wages, dollars and cents, extend far beyond that basic issue. . . ."¹⁰⁰ Even in the General Motors negotiations in 1945, when ability-to-pay had its greatest publicity, Slichter states that the ability-to-pay was not the real issue.

Recent discussions of ability-to-pay have led many people to expect unions to argue that the ability of an employer to pay a wage increase proves that he should pay it. Even in the General Motors negotiations in the fall of 1945, however, the union did not use the ability-to-pay argument in this way. In fact, ability-to-pay was not the positive basis for the union's demand on General Motors. It was used merely as anticipatory rebuttal. The union's argument for a wage increase was that higher wages were needed to avert a catastrophic drop in postwar markets. . . .¹⁰¹

How does the ability-to-pay criterion rank with the other criteria used in wage negotiations? A study that throws light on this question was made by Woytinsky and Associates in the summer of 1948.

Number 18"; Bloomington: Bureau of Business Research, Indiana University, November, 1954), p. 13.

¹⁰⁰J. B. C. Woods, "The Accountant's Role in Labor-Management Relations," The New York Certified Public Accountant, August, 1954, p. 504.

¹⁰¹Sumner H. Slichter, Basic Criteria Used in Wage Negotiations (Chicago: The Chicago Association of Commerce and Industry, 1947), pp. 30 f.

The report of this study gives the views of over a hundred of those most concerned with collective bargaining--chief officers of the largest labor unions and those officials in leading business concerns most concerned with labor relations.¹⁰² The persons interviewed were encouraged to give their candid views in their own words with the promise of anonymity.¹⁰³ No conclusions were drawn but the report was presented for factual information.¹⁰⁴ In all, fifty-two interviews with labor leaders representing 11,500,000 members¹⁰⁵ and eighty-eight interviews with management leaders were arranged.¹⁰⁶ Emphasis was placed on the thinking of the leaders rather than on arguments that they had used at the negotiation table or before the public.¹⁰⁷ A tabulation of the results of the survey of labor leaders is given in Table 31. It is worthy of note that during a period when reported profits were high, and during a time when the ability-to-pay argument was in its heyday, the amount of profits was ranked fifth in the factors considered by labor

¹⁰² Woytinsky and Associates, op. cit., p. ii.

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ Representatives of all but one union having a membership of more than 200,000 members were interviewed, ibid., p. XI.

¹⁰⁶ Ibid., p. XII.

¹⁰⁷ Ibid., p. 71.

TABLE 31

FACTORS CONSIDERED BY UNION LEADERS IN WAGEAIMS OF 1947 AND 1948*

Response	Named Among All Factors			Named Among Most Important Factor			
	Union Members		Number of Unions	Per Cent of Total	Number of Unions	Per Cent of Total	
	Number (Thousands)	Per Cent					
Number of respondents	52	11,523	100.0		52	11,523	100.0
Factors considered in setting wage goals:							
Cost-of-living changes	50	11,408	99.0		43	9,704	84.2
Comparison with other localities	34	8,112	70.4		1	200	1.7
Comparison with other occupations or industries	29	6,056	52.6		4	560	4.9
Comparison with other unions	26	5,061	43.9		·	·	·
Profits	25	5,253	45.6		3	1,137	9.9
Productivity	18	4,367	37.9		5	2,340	20.3
Standard of Living	14	1,919	16.7		13	1,847	16.0
Other	3	950	8.2		2	640	5.6

*Source: W. S. Woytinsky and Associates, Labor and Management Look at Collective Bargaining (New York: The Twentieth Century Fund, 1949), p. 73.

leaders in their wage aims. Only three unions, 9.9 per cent of the total membership represented, named it among the most important factors. In only twenty-five unions, accounting for 45.6 per cent of the union members represented in the survey, was it even mentioned as a factor.

Table 32 reveals that Management respondents also ranked the earnings position of the company fifth as a factor in their wage proposals, with only twenty-five out of eighty-eight respondents ranking it as a major factor.

Labor leaders are not willing to use the ability-to-pay as a universal criterion. Backman states that this criterion is "one which cannot be and will not be widely applied by labor as a criterion of wage adjustment. . . ." ¹⁰⁸ This position is substantiated by statements of labor leaders themselves as shown by the following editorial in The New York Times:

. . . Now Mr. Reuther has publicly announced that the demand made upon the corporation to open its books in order to determine its ability to pay 'was just a maneuver to win public support and to get the company over a barrel'. At the same time, UAW President Thomas admitted that the ability-to-pay theory had 'got us into quite serious difficulties with other unions'. He went on to point out that 'Ford, for example, offered to show us their books if we would consider ability to pay the principle. We'd certainly have been in a jam on that. They were losing \$30,000,000 a year so, instead of getting an increase we'd have got a decrease'.

¹⁰⁸ Backman, op. cit., p. 60.

¹⁰⁹ The New York Times, March 26, 1946, p. 28.

TABLE 32

MAJOR FACTORS CONSIDERED IN MANAGEMENT'S
WAGE PROPOSALS, 1947 AND 1948*

Response	Total	Manufacturing Companies	Nonmanufacturing Companies
Number of respondents	88	47	41
Factors considered in developing proposals:			
Changes in cost of living	80	44	36
Wages, etc., of other firms in the industry	40	21	19
Wages, etc., of other firms in the area	39	23	16
Increases won by certain big unions	28	16	12
Earnings position of the company	25	11	14
Effect on price of product	20	12	8
Strength of union or a strike threat	12	4	8
Changes in productivity	6	4	2

*Source: W. S. Woytinsky and Associates, Labor and Management Look at Collective Bargaining (New York: The Twentieth Century Fund, 1949), p. 84.

The argument is used also by management in the form of "inability-to-pay". The business decline of 1949, for example, brought about an increasing emphasis by management on this inability to pay. The Ford Motor Company of Canada pleaded inability to meet a \$100 pension plan for men of sixty-five with twenty-five years of service. The company estimated that it would take \$13,000,000 per year and insisted they had never earned anything like this much profit in any

year.¹¹⁰ The textile companies¹¹¹ and the Ford Motor Company of Detroit¹¹² also used the same plea in refusing to grant pay increases. In fact, Slichter has stated that the argument in this form has been more frequently used by employers than by unions.

. . . It has been used more frequently by employers than by unions--by employers who have resisted wage demands on the grounds that they were unable to pay. In these cases unions have usually argued that the employer's ability or inability to pay is irrelevant, that employers should be required to pay a wage that is 'fair', and that employers who cannot do so should go out of business. . . .¹¹³

Thus ability-to-pay emerges as a highly opportunistic argument that is used by management representatives when the situation is adverse but is held by them to be irrelevant in times of prosperity, while unions act in just the other way. In fact, one writer on labor-management relations has stated that the appeal for public sympathy was the main purpose of the presentation of financial data. ". . . Our examination of many union and company documents showed that appeal for public sympathy was the major purpose of financial documentation and analysis. . . ."¹¹⁴

¹¹⁰ Ibid., June 4, 1947, p. 7.

¹¹¹ Ibid., June 17, 1949, p. 4.

¹¹² Ibid., June 19, 1949, p. 34.

¹¹³ Basic Criteria Used in Wage Negotiations, op. cit., p. 25.

¹¹⁴ Ernest Dale, "The Accountant's Part in Labor-Management Relations," The Journal of Accountancy, July, 1950, p. 14.

Even if it is admitted that the granting of higher wages caused higher prices, and that the "ability-to-pay" was a significant factor in the granting of pay increases, the question of whether wage demands would have been blunted, if profits had been more "realistically" reported, remains to be considered.

First, it should be appreciated that organized labor has distrusted financial statements. As one writer has said: "The unions and the public have come pretty generally to distrust most of the figures presented by companies. . . ." ¹¹⁵ Second, the union leaders were unsympathetic toward the use of Life for inventory purposes. ¹¹⁶ Solomon Barkin, Director of Research, Textile Workers Union of America, CIO, has said: "The 'Life' procedure is unacceptable to the trade unionist, even though it has been approved in recent years by the Bureau of Internal Revenue for tax purposes. . . ." ¹¹⁷ Barkin also stated the union viewpoint relative to depreciation: "The trade union attitude is basically unsympathetic to the maintenance of accounts on any basis other than the actual original cost of the tangible

¹¹⁵C. Wilson Randle, "The Accountant's Role in Labor Relations," The New York Certified Public Accountant, September, 1951, p. 598.

¹¹⁶See statement of Ruttenberg under The relationship of accounting to the controversy, supra.

¹¹⁷Solomon Barkin, "A Trade Unionist Views Net Income Determination," N. A. C. A. Bulletin, June, 1951, p. 1203.

property. . . ." ¹¹⁸

When the union's attitude toward the "Lifo principle" is coupled with the basic distrust of accounting statements, it is difficult to see how the use of this principle would have toned down wage demands. Evidence of this was a statement made by Donald Montgomery of the United Automobile Workers: ". . . We have occasion to examine hundreds of financial reports each year in connection with negotiations. Far from exaggerating profits, there is hardly a device developed by accounting ingenuity to minimize profits which does not appear in the reports we see." ¹¹⁹

Certainly, any argument based on the assumption that a change in accounting techniques would have allayed the wage demands of organized labor would be too naive. It is agreed by writers in this field that, in many cases, the unions go to the bargaining table armed with as much financial information as management representatives. Pillsbury states: "In reviewing the methods and sources used in obtaining data, it is safe to say most union research departments do everything possible in order to obtain corporate financial data for use in collective bargaining. . . ." ¹²⁰ As to the sources used Barkin states:

¹¹⁸ Ibid., p. 1205.

¹¹⁹ U. S. Congress, Profits, op. cit., p. 43.

¹²⁰ Pillsbury, op. cit., p. 25.

. . . Unions for their part have usually prepared themselves for these conferences with extensive information of an economic, industrial and financial nature. For the last category, its staffs would have assembled data from various sources such as public financial reports, the statements filed with the Securities and Exchange Commission and the Stock Exchange. Where the above are unrewarding, they will resort to financial services, investment houses, credit information agencies, summaries of industry-wide financial experience, and reports by the Bureau of Internal Revenue, the Securities and Exchange Commission and the Department of Commerce. . . .¹²¹

Barkin has further stated that: ". . . Labor people can reconstruct financial statements as easily as management accountants. . . ."¹²²

Nat Goldfinger, Economist, Department of Research, American Federation of Labor and Congress of Industrial Organizations, has given the following opinion of the effect of a change in accounting procedures upon collective bargaining demands:

. . . In unions like the United Automobile Workers and United Steelworkers, whose collective bargaining demands and settlement set the tone for much collective bargaining nationally, changes in accounting procedures would not have had an effect upon collective bargaining demands. The research departments of these two unions, among others, regularly analyze corporate financial reports in great detail and present their own interpretation of these reports to the union officers and the bargaining committees. . . . Had inventory profits been eliminated from net profits by different accounting techniques, for example, I am confident that the research departments of most unions would have sought them out.¹²³

¹²¹ Solomon Barkin, "The Financial Statement in Collective Bargaining," The New York Certified Public Accountant, July, 1953, p. 439.

¹²² Solomon Barkin, letter to the writer, December 2, 1955.

¹²³ Nat Goldfinger, letter to the writer, January 4, 1956.

Conclusions on the Cyclical Effect of Accounting
Methodology on Wage Policy

It is admitted that increased wages added to the early post-war inflationary spiral. However, this factor has often been over-stressed since there were many influences in addition to wage increases that contributed to inflation during this period.

Since accounting statements are used in determining the ability-to-pay, the influence of accounting methods as a factor in wage determination is only as strong as the ability-to-pay criterion. Surveys have shown that neither corporate executives nor union representatives rank this criterion very high in wage negotiations. When it is used, it is usually coupled with other factors and does not stand alone. Furthermore, accounting statements are only one factor used by labor leaders in determining the ability-to-pay. Ability-to-pay has emerged as an opportunistic argument that is used by both management representatives and union leaders with an eye to winning public support.

Even if it is admitted that the granting of higher wages did contribute to the inflationary spiral and that ability-to-pay was an important criterion used in wage negotiations in the early postwar years, it by no means follows that, if accounting procedures relative to inventories and to depreciation has been changed, the leaders of organized labor would have reduced wage demands. There is reason to believe that labor leaders would have taken these accounting changes as just

another device to "hide" excessive profits and, in interpreting the statements for ability-to-pay, would have taken the change in techniques into consideration.

Any inherent assumption that union leaders would have been fooled by changes in accounting techniques designed to make the profits more "realistic" should be heavily discounted. The links between "overstated" profits, the ability-to-pay criterion, and the consequent wage increases contain naive assumptions as to the behavior of labor leaders similar to those already encountered relative to the relationship between accounting profit and the investment decisions of businessmen.

It is possible that the high reported profits in the early post-war years may have affected the atmosphere in which collective bargaining took place. Just how much the bargaining for wage increases was affected it is impossible to say. The adoption of accounting techniques which would have reduced reported profits would have avoided the embarrassing paradox of many accountants stating publicly that profits reported in financial statements, even though certified by public accountants, were really not profits at all.

CHAPTER VIII

CYCLICAL IMPLICATIONS OF THE USE OF ACCOUNTING DATA IN BUSINESS PRICING DECISIONS

A Consideration of the Alleged Relationship of Accounting Methodology to Price Rigidity

A brief statement of the position of those who believe that accounting methods affect business fluctuations through price policy. -- It is believed by some writers that accounting methods by affecting the pricing decisions of business firms, and thus consumption expenditures, influence the level of national income.¹ The influence of pricing decisions on demand would, in turn, affect investment through the accelerator principle. The arguments advanced are largely depression arguments. Accounting methods are said to contribute to the reluctance of businesses to lower prices during the depression phase. It is the aim of the businessman to sell at prices that will cover costs and leave a margin of

¹ For example, see, James Arthur Estey, Business Cycles (New York: Prentice-Hall, Inc., 1946), pp. 503-505; Edwin G. Nourse, Price Making in a Democracy (Washington: The Brookings Institution, 1944), pp. 374 f.; and Norman S. Buchanan, The Economics of Corporate Enterprise (New York: Henry Holt and Company, 1940), pp. 289 f.

profit. Furthermore, it is argued that the costs which price is to cover are those computed by accounting methods. In this connection Estey states:

. . . these costs which prices should cover include not only the variable costs such as wages, materials, and so on, but also the overhead costs which go on irrespective of the volume of output. The accountant discovers what these costs amount to, and these, spread out over the output, are taken to be a measure of the price which must be charged. . . .²

In years of decreasing volume, especially, accounting costs based on the Fifo principle tend to be rigid. Concerning a period of decreasing volume, Schmidt has said:

. . . Prices for goods of consumption are then too high, because of the calculation of depreciation on the high original cost. That unemployment is brought about by an artificially raised price level and a consequent decline of business volume, is proved by all experience of the last century. . . .³

On the other hand, it is contended that if the accounting concept of cost more nearly approached that of replacement cost, then there ". . . would be encouragement to produce and sell at lower prices when cost of replacement falls. This could not fail to have an effect in stabilizing employment; peaks and valleys of profit would be less sharp. . . ."⁴

²Estey, op. cit., p. 503.

³Fritz Schmidt, "The Basis of Depreciation Charges," Harvard Business Review, April, 1930, pp. 263 f.

⁴Samuel J. Broad, "The Impact of Rising Prices Upon Accounting Procedures," The Journal of Accountancy, July, 1948, p. 21.

Before attempting an evaluation of the argument that accounting contributes to business fluctuations by its influence on pricing policy, a more thorough inquiry into the relationship of accounting costs and price-making policy will be made.

Price-making on the basis of costs is inconsistent with the idea of pure competition. --In order for price-making on the basis of cost to take place, it must be assumed that the producer has some control over the total amount of the product supplied, and, hence, this method of price-making is incompatible with pure competition. Galbraith has expressed this idea as follows:

. . . Under anything approaching pure competition it would be impossible for the prices of the products of an industry to remain constant while production found its own level. Where numerous producers compete freely in the sale of an undifferentiated product the inevitable sequence of reduced demand is lower prices and a new adjustment of output. . . .⁵

In other words, when writers speak of the cyclical effect of cost accounting on prices, they are speaking of "administered prices".

The concept of "administered prices". --Nourse and Drury have defined "administered prices" as "prices established by the decision of executives who have power to decide in advance the price at which goods shall be sold and to back up that decision by expanding or contracting operations in volume large enough to have a significant

⁵J. K. Galbraith, "Monopoly Power and Price Rigidities," The Quarterly Journal of Economics, May, 1936, p. 460.

effect on the market. . . ."⁶ Means stresses infrequency of change as a characteristic of administered prices. An administered price, according to Means, is "a price which is set by administrative action and held constant for a period of time. . . ."⁷

"Administered prices" are essentially cost-plus prices with costs considered as average costs. --Writers on the subject of the relationship of cost accounting to pricing decisions rely heavily on the assumption that prices are set on the basis of average costs plus a percentage markup. Gordon, however, points out that "average-cost pricing" has two meanings: ". . . 'average-cost pricing' may mean setting the price on average variable cost plus a conventional percentage mark-up, or it may mean total unit cost. . . ."⁸ Writers who stress accounting costs as a factor in pricing emphasize the use of "full cost"⁹ in pricing decisions. Nourse and Drury state this concept of the accounting-made price as follows:

⁶Edwin G. Nourse and Horace B. Drury, Industrial Price Policies and Economic Progress (Washington: The Brookings Institution, 1938), p. 9.

⁷Gardiner C. Means, Industrial Prices and Their Relative Inflexibility, Senate Document No. 13, 74th Cong., 1st Sess. (Washington: U. S. Government Printing Office, 1935), p. 1.

⁸R. A. Gordon, "Short-Period Price Determination in Theory and Practice," The American Economic Review, June, 1948, p. 284.

⁹R. L. Hall and C. J. Hitch, "Price Theory and Business Behavior," Oxford Studies in the Price Mechanism, eds. F. Wilson and P. W. S. Andrews (Oxford: At the Clarendon Press, 1951), pp. 112 f.

. . . But a great deal of industrial price-making simply looks at a commodity in the market as a cumulation of cost items for materials, labor, machine service, and various overhead costs. When these have been added together and a 'proper' loading for profit added, you have your price Q. E. D. The cost accountant produces the records of the past to show that those are the costs the business has incurred and which it must recover or quit.¹⁰

Hall and Hitch also give a similar view of price making on the basis of the "full cost" principle: "The formula used by the different firms in computing 'full cost' differs in detail . . . but the procedure can be not unfairly generalized as follows: prime (or'direct') cost per unit is taken as the base, a percentage addition is made to cover overheads (or 'oncost', or 'indirect' cost) and a further conventional addition (frequently 10 per cent) is made for profit. . . ."¹¹

With businesses large enough to affect the cycle "administered prices" are said to be the rule rather than the exception. --It is stated by many writers that administered prices are the prevalent ones in modern business.¹² Means states that administered prices "seem to me inherent in modern technology. . . ."¹³ Backman states that:

¹⁰ Nourse and Drury, op. cit., p. 256.

¹¹ Hall and Hitch, op. cit., p. 113.

¹² See, for example, Alfred R. Oxenfeldt, Industrial Pricing and Market Practices (New York: Prentice-Hall, Inc., 1951), p. 162, and Galbraith, op. cit., p. 460.

¹³ Gardiner C. Means, "Notes on Inflexible Prices," Papers and Proceedings of the Forty-eighth Annual Meeting of the American Economic Association, in The American Economic Review, March, 1936, p. 35.

". . . Most industries use percentage markups over cost to determine selling prices. . . ."¹⁴ Nourse speaks of the influence of corporate executives on price policy in these words: "Over a large and strategically important area of modern industrial business, prices are not made by the broad and impersonal forces of the general market. They are strongly influenced by the managerial policy of executives. . . ."¹⁵

Cost-plus pricing as a factor in price rigidity. --Since the average total cost of the accountant is based largely on historical costs instead of replacement costs, accounting costs are prevented from falling at the beginning of the depression phase. Furthermore, if average total costs are being used to determine pricing policies, when the demand for the product recedes, this decrease in demand is met with a reduction in output rather than a downward adjustment in price. Galbraith has stated the effect of accounting-cost pricing as follows:

If average costs are being used to determine price policy and the producer's demand recedes then output at the ruling price, of course, falls off. The new unit or average costs are higher than before unless cost rates have undergone a marked decline. The producer may and probably will realize the futility of increasing prices. But on the other hand, he is powerfully restrained from

¹⁴Jules Backman, Economics of a Fourth Round Wage Increase, Testimony on Behalf of Steel Companies Before the Presidential Steel Board, August, 1949, p. 87.

¹⁵Edwin G. Nourse, "Cost Finding and Price Determination," National Association of Cost Accountants Year Book, 1945, p. 28.

reducing prices, for to do so is to run directly counter to the advice of the accounting system.¹⁶

According to many writers this is what happened in the early years of the Great Depression. An accountant, Samuel J. Broad, writing of the contribution of accounting techniques to the reluctance of businessmen to reduce prices, states:

The depression of the early 1930's was deepened by an unwillingness to reflect the inventory losses which would have to be taken under the historical cost method if selling prices were drastically reduced. When prices decline, to avoid showing the loss we put off selling at prices sufficiently low to create demand, and we put off buying for lack of markets. Lower prices based on lower replacement costs should promote more sales. . . .¹⁷

Another writer pointed out that the maintenance of prices was a factor in the 1937-38 recession:

The existence of non-competitive posted prices, together with the policy of maintaining these prices in periods of declining demand, has the effect of making depressions more disastrous and recoveries more difficult. More than 2,000,000 jobs were lost in the early stages of the 1937-38 depression because manufacturers . . . almost unanimously greeted the depression by reducing output instead of reducing prices. . . .¹⁸

The influence of cost-plus pricing at the firm level is extended to the industry and to the economy. --There are tendencies at work that extend the rigidities of price at the firm level to the industry and to the

¹⁶ Galbraith, op. cit., p. 471.

¹⁷ Broad, op. cit., p. 25.

¹⁸ E. D. Kennedy, "Steel Man's Story," The New Republic, March 11, 1940, pp. 338 f.

whole economy. Gordon states that the most important factor influencing a change of price in an oligopolistic market is the anticipated or observed behavior of competitors.¹⁹ Any arrangement that would tend to promote uniform cost calculations among rival producers would tend to "stabilize" prices based on average costs of all the producers and thus would make for inflexible prices within the industry. Machlup states: "The general adoption of an average cost rule is in effect a price agreement among the members of the particular industry. . . ."²⁰ An arrangement that has this effect is the trade association. Saxton states: "The aim of all Trade Associations (however defined by the promoters) seems to be the elimination of that form of competition which draws most attention to the reduction of price of the product of a particular firm below that of others making the same or a similar product. . . ."²¹

One of the means of establishing price stability among the association members is by the use of uniform methods of accounting.²²

¹⁹Gordon, op. cit., p. 283.

²⁰Fritz Machlup, "Marginal Analysis and Empirical Research," The American Economic Review, September, 1946, p. 543.

²¹C. Clive Saxton, The Economics of Price Determination (London: Oxford University Press, 1942), p. 15.

²²See, Arthur Robert Burns, The Decline of Competition (New York: McGraw-Hill Book Company, Inc., 1936), pp. 49-55, and

One writer has said: "When an association is actively striving to stabilize prices through its accounting program, the promotion of uniform accounting and the dissemination of average-cost information provide a logical avenue to personal contact between the association staff and the individual members. . . ."²³ In fact, it is pointed out that two objectives of uniform accounting programs of trade associations overshadow all others: "(1) the maintenance of profitable and stable prices and (2) the stimulation of economies."²⁴

The rigid prices in one firm or industry are rigid costs to another.²⁵ Galbraith points this out in these words:

. . . Finally, rigid prices in one branch of production are rigid costs to another. A whole complex of such costs is thus established with the aid of modern techniques of price and production control. So far as they in turn are of importance in determining price policy they act to 'shore up' the structure of industrial prices. . . .²⁶

In summary, it is argued that prices in much of modern day business are "administered" prices and that "administered" prices

Simon N. Whitney, Trade Associations and Industrial Control (New York: Central Book Company, 1934), pp. 42 f.

²³ Charles Albert Pearce, Trade Association Survey ("Temporary National Economic Committee Monograph No. 18"; Washington: U. S. Government Printing Office, 1941), p. 297.

²⁴ Ibid., p. 295.

²⁵ Burns, op. cit., pp. 257-261.

²⁶ Galbraith, op. cit., p. 472.

are cost-plus prices with cost considered to be average total cost as derived from the accounting records. This method of pricing makes prices inflexible, especially in a downward direction, and hence, any drop in demand is accentuated by the firm's resistance to the lowering of prices. Finally, forces are at work that tend to translate this price rigidity at the firm level to other firms and industries. Many writers believe that this price inflexibility tends to accentuate the downward swing of the cycle.

An Evaluation of Cost-Plus Pricing
As a Factor in Price Rigidity

The rigidity of prices may be more apparent than real. --The recorded prices used by statisticians are usually the publicly announced prices which may not be the prices that were paid by the customers.²⁷ Burns pointed this out in these words: ". . . The prices may be list prices which are subject to large and fluctuating discounts with the result that the series is no guide to actual prices. . . ."²⁸ Nourse and Drury use the steel industry to illustrate this situation.

. . . The published base prices stay at the same levels for long periods of time. But every day individual bargains are struck

²⁷Rufus S. Tucker, "The Reasons for Price Rigidity," The American Economic Review, March, 1938, p. 53.

²⁸Arthur Robert Burns, "The Organization of Industry and the Theory of Prices," The Journal of Political Economy, October, 1937, p. 677.

that nullify these prices. Two buyers may buy the same amount of the same kind of steel from the same mill at widely different prices, and no one except the seller will be any the wiser. . . .²⁹

A change in quality at the same list price is also the equivalent of a price change.³⁰ Likewise, a change in quantity at the same price is another way of changing real price without changing the list price. Varying the allowances for trade-ins and the terms of guarantee for service and performance are also the equivalent of price changes. A change in terms of delivery³¹ and even product differentiation to create a new price class³² are other ways of changing the real price without changing quoted prices.

Reasons given for price rigidity. --It is conceded, however, that these hidden price changes are only a partial explanation of observed price rigidities.³³ In order to place the arguments relative to accounting costs as a factor in price rigidity into their proper perspective, the various causes that have been advanced for price rigidity will

²⁹Nourse and Drury, op. cit., p. 303.

³⁰Alfred C. Neal, Industrial Concentration and Price Inflexibility (Washington: American Council on Public Affairs, 1942), p. 39.

³¹Ibid.

³²Jules Backman, "The Causes of Price Inflexibility," The Quarterly Journal of Economics, May, 1940, p. 485.

³³Joel Dean, Managerial Economics (Prentice-Hall, Inc., 1951), p. 458.

now be reviewed.³⁴ Neal states that most explanations of price inflexibility fall into two classes (1) monopoly power and (2) product characteristics, market, cost, demand conditions, and the like.³⁵ Galbraith attributes price rigidity jointly to monopoly power and the nature of administration.³⁶ Backman emphasizes the latter cause of price rigidity: ". . . The actions taken by those in control, rather than the fact of concentration, will be the decisive factor. . . ."³⁷ Dean has classified the main reasons for price rigidity into four groups:³⁸ (1) the nature of demand, (2) the degree of competition, (3) rigid costs, and (4) custom, tradition, idea of just price, etc.

As to the nature of the demand for the product, Tucker has stated: ". . . We may say then that the elasticity of demand for a product determines whether a reduction in the intensity of demand, i. e., a shift of the demand curve to the left, must result in a great change in the amount sold or the price obtained, or only a small change. . . ."³⁹

³⁴For a very comprehensive and detailed list of the reasons for price inflexibility see, Backman, op. cit., pp. 474-476.

³⁵Neal, op. cit., p. 47.

³⁶Galbraith, op. cit., p. 463, n. 8.

³⁷Backman, op. cit., p. 476.

³⁸Dean, op. cit., pp. 458-460.

³⁹Tucker, op. cit., p. 53.

This elasticity of demand is, in turn, dependent on such factors as the durability of the product and the availability of substitutes.⁴⁰ Since many industrialists believe that the demand for their product is inelastic,⁴¹ this makes for rigidity of prices.

Since much industrial pricing is done under conditions of oligopoly, the reaction of competitors must be considered. Producers under these market conditions fear that if they cut prices, then competitors will also cut them, and if they raise prices, competitors either will not raise them at all, or as much.⁴² Gordon states that under conditions of oligopoly: ". . . Before the price is changed, strong efforts will be made to adjust to the new situation in the other ways that are available--through output, selling expense, product specifications, production techniques, and the like. . . ."⁴³

The relationship of costs, especially accounting costs, to rigid selling prices has already been discussed.⁴⁴

Dean has pointed out that the "role of custom and tradition in

⁴⁰Ibid., p. 52.

⁴¹See Dean, op. cit., p. 458, and Hall and Hitch, op. cit., p. 116.

⁴²Hall and Hitch, op. cit., p. 115.

⁴³Gordon, op. cit., p. 283.

⁴⁴See, "A Consideration of the Alleged Relationship of Accounting Methodology to Price Rigidity," supra.

setting prices in many areas must not be underestimated. . . ."⁴⁵

The practice of furnishing price lists in advance to salesmen, dealers, and the public add to rigidity of prices.⁴⁶ Hall and Hitch point out that: ". . . Changes in price are frequently very costly, a nuisance to salesmen, and are disliked by merchants and consumers. . . ."⁴⁷ There is also a fear that if prices are once reduced, they will be difficult to raise again. Buyers may protest less against a stable price than against a ten per cent reduction which is later restored.⁴⁸

Thus a rigid cost structure is only one out of many factors contributing to rigid prices.

The ignoring of demand. --A strict adherence to price-making on the basis of costs would seem to imply that the demand for the product is ignored.⁴⁹ However, cost-plus pricing serves only as a guide to price setting and is not blindly followed. Vanderblue in his study of the pricing policies of the automobile industry states that the price

⁴⁵Dean, op. cit., p. 460.

⁴⁶Tucker, op. cit., p. 53.

⁴⁷Hall and Hitch, op. cit., p. 116.

⁴⁸Saul Nelson, Price Behavior and Business Policy ("Temporary National Economic Committee Monograph No. 1"; Washington: U. S. Government Printing Office, 1940), p. 35.

⁴⁹See statement of Nourse and Drury, supra.

once set must stand the test of the market place. Merely having a cost analysis as a guide will not return the costs no matter how carefully the cost analysis is made.⁵⁰ Differential margins over costs in the case of multiproduct firms incorporate the demand influences in the pricing formulas.⁵¹ The practice of allocating overhead to various products on the basis of the relative selling price raises the question of whether selling price is based on full cost or whether full cost is itself determined by selling prices.

A consideration of the evidence that cost-plus pricing is used. --What evidence is there that cost-plus pricing is used? There is indirect evidence to sustain the belief that it is not voluntarily used at the crucial times when demand and supply are out of balance at the prevailing price. Machlup points out that the existence of cartels, fair-trade laws, minimum price laws, and bans against selling below cost are conclusive evidence of the incentive to sell more cheaply than average cost plus a "fair" profit.⁵² The existence of maximum prices enforced by legislative fiat, on the other hand, is evidence of the

⁵⁰Homer B. Vanderblue, "Pricing Policies in the Automobile Industry," Harvard Business Review, Summer, 1939, p. 396.

⁵¹Richard B. Heflebower, "Full Costs, Cost Changes, and Prices," Business Concentration and Price Policy (Princeton: Princeton University Press, 1955), p. 364.

⁵²Fritz Machlup, The Economics of Sellers' Competition (Baltimore: The Johns Hopkins Press, 1952), pp. 72 f.

temptation to charge more than the average cost plus a "fair" profit. Machlup asks: ". . . What other testimony is needed to demonstrate that there must indeed by millions of pricing decisions every year that are not based on the average-cost rule?"⁵³

The best known study showing the use of full cost pricing is that of Hall and Hitch. The evidence considered was based on interviews with thirty-eight firms--thirty-three manufacturers of a wide variety of products, three retailers, and two builders.⁵⁴ Table 33 shows the degree of adherence to the "full cost" principle. It is worthy

TABLE 33

DEGREE OF ADHERENCE TO FULL COST PRINCIPLE*

Not adhering	8
Adhering rigidly	12
Adhering normally	15
Adhering in principle	3
	<hr/>
	38

*Source: R. L. Hall and C. J. Hitch, "Price Theory and Business Behavior," Oxford Studies in the Price Mechanism, eds. T. Wilson and P. W. S. Andrews (Oxford: At the Clarendon Press, 1951), p. 119.

⁵³Ibid.⁵⁴Hall and Hitch, op. cit., p. 107.

of note that even in this study, which has been heralded as demonstrating the use of the full cost principle, less than one-half the firms adhered "rigidly" to this principle, although an additional fifteen firms stated they adhered "normally." A study of the reasons, given in Table 34, for a departure from the full cost principle is even more revealing. These reasons do not show the ignoring of demand and the

TABLE 34

OCCASIONS ON WHICH A DEPARTURE FROM THE
FULL COST PRINCIPLE IN A DOWNWARD
DIRECTION MIGHT BE MADE*

Depressed trade	6
Cyclically on competitive lines	2
When necessary to "keep going"	4
Necessity to follow a competitive price	8
If competitor broke agreement	1
Loss leaders	2
Attempt to capture new markets	2
To obtain a large contract	3
Seasonally to stimulate sales.	2
To clear old stock	1
Cases where demand was elastic	2

*Source: R. L. Hall and C. J. Hitch,
"Price Theory and Business Behavior," Oxford Studies in the Price Mechanism, eds. T. Wilson and P. W. S. Andrews (Oxford: At the Clarendon Press, 1951), p. 121.

blind pricing on the basis of cost so often implied by the critics of full cost pricing. Furthermore, the authors themselves point out certain limitations of the evidence, especially, the biased character

of the sample.⁵⁵

In Saxton's study of fifty firms by questionnaire he found thirty-six who said that they fixed prices on the basis of standard costs or estimated costs.⁵⁶ Answers as to how demand affected prices were so varied, however, that they were not tabulated.

Kohl's study was made in 1953 and consisted of forty personal interviews "with either price-making executives or representatives well informed on their company's pricing procedures."⁵⁷ The firms represented were large, nationally known manufacturing firms located in northern Illinois, southern Wisconsin, and the New York City area. The pricing factors mentioned by those interviewed are shown in Table 35. Cost alone as a factor is mentioned by only three interviewees.

In the hearings on the size of profits held in December, 1947, cost was frequently mentioned as a factor in pricing.⁵⁸ Even here,

⁵⁵Ibid., p. 108.

⁵⁶Saxton, op. cit., p. 181, question 19.

⁵⁷Maybelle Kohl, The Role of Accounting in Pricing (Ann Arbor, Michigan: University Microfilms, 1954), p. 127.

⁵⁸See, for example, testimony of Hiland G. Batcheller, President of Allegheny-Ludlum Steel Corporation, U. S. Congress, Profits, A Report of a Subcommittee of the Joint Committee on the Economic Report on Profit Hearings, 80th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1949), p. 115, and Clarence Francis, Chairman of the Board, General Foods Corporation, ibid., p. 124.

TABLE 35

FACTORS USED IN PRICING*

Cost, competition	15
Competition, cost	12
Cost, competition, demand . . .	4
Cost.	3
Competition, demand	2
Cost, demand, competition . . .	1
Demand, competition, cost . . .	1
Cost, demand, competition, investment.	1
Competition, cost, investment . .	1
	40

*Maybelle Kohl, The Role of Accounting in Pricing (Ann Arbor, Michigan: University Microfilms, 1954), p. 132.

however, the cost to the producer was only one factor mentioned in setting prices. Clarence Francis, Chairman of the Board, General Foods Corporation, for example, made the following statement relative to the factors considered by his company in setting prices: "On the basis of all known or probable costs and on more or less reasonable assumptions about the decisions which competitors will make on their prices or their promotion or their new products, the general economic picture, our own market research into distribution possibilities, everything that we may want to do for specific products or that we can estimate about Government policies, the vagaries of nature, the labor situation, etc., must be taken into account in setting a price."⁵⁹

⁵⁹U. S. Congress, op. cit., p. 125.

Vanderblue in his study of the pricing policies of General Motors Corporation admitted that prices were "administered" and "are not jiggled with the seasons or as the phase of the business cycle changes. . . ."⁶⁰ However, earlier he had stated that the setting of price on a particular design and make depended upon three considerations: "what the product will cost; what the market will pay for it; and in what quantity it can be sold."⁶¹

In conclusion, it is far from certain that cost-plus pricing is as widely used as is so often stated. There is considerable evidence that even when it is used, it is modified for demand influences and to meet competition. Cost computed by any method is only one factor in the pricing of the product. If there is oligopoly with collusion, tacit or otherwise, cost becomes a much stronger factor in the setting of price. The evidence that prices, even though set on a cost-plus basis, are adhered to is even less clear. Thus, even though "administered" prices may be characteristic of a large segment of the economy, it does not necessarily follow that these prices are cost-plus prices rigidly adhered to under changing conditions of demand.

⁶⁰Homer B. Vanderblue, "Pricing Policies in the Automobile Industry: Incidence of Demand," Harvard Business Review, Autumn, 1939, p. 79.

⁶¹Vanderblue, op. cit., Harvard Business Review, Summer, 1939, p. 400.

A consideration of the evidence that only accounting costs are used in cost-plus pricing. --Even if it is conceded that: (1) administered prices are characteristic of the economy and (2) administered prices are cost-plus prices rigidly adhered to, one question still remains: Are historical costs always used for pricing purposes, especially when they differ greatly from replacement costs? Table 36 shows that 25 per cent of the 559 cooperating companies surveyed by the National Industrial Conference Board took higher replacement costs into account when pricing the product.

TABLE 36

COMPANIES CONSIDERING CURRENT REPLACEMENT COSTS IN PRODUCT PRICING*

Assets (Millions of Dollars)	Companies Reporting	Number	Per Cent of Total
0 - 4.9	175	46	26
5 - 24.9	221	50	23
25 - 99.9	115	32	28
100 and over	48	14	29
	559	142	25

*Source: James A. Finley, Handling Higher Replacement Costs ("Studies in Business Policy No. 47"; New York: National Industrial Conference Board, 1950), p. 8.

Kohl stated that total product cost estimates were usually in terms of current costs except for some elements of overhead.⁶² In a research study of costs for pricing purposes made by the National Association of Cost Accountants, thirty-six out of the fifty-five companies participating in the survey used current market, or the anticipated replacement cost, of materials in computing product costs for pricing.⁶³ It was also found that where standard costs were used, the standard costs were revised when a general change in labor rates took place.⁶⁴ On the other hand, only a few companies adjusted the depreciation element because of changing price levels.⁶⁵ Some of the reasons given for the failure to adjust depreciation were: (1) depreciation is only a small portion of total product cost; (2) most depreciable assets have been acquired at recent price levels and hence the problem is not important; and (3) some companies have concluded that there is no practical way to ascertain depreciation in terms of the current price level.

Kohl found that only two firms attempted to incorporate a charge

⁶²Kohl, op. cit., p. 138.

⁶³National Association of Cost Accountants, Product Costs for Pricing Purposes ("Research Series No. 24"), N. A. C. A. Bulletin, August, 1953, p. 1686.

⁶⁴Ibid., p. 1689.

⁶⁵Ibid., p. 1690.

for depreciation based upon either current or future replacement costs of fixed assets in pricing estimates.⁶⁶ However, allowances for future replacement of fixed assets at higher prices were usually made through a flexible net profit figure.

While these three studies were made during a period of high prices and not during a depression, when the argument that accounting methods contributed to price rigidity has been used most often, the results are at least presumptive evidence that costs used for pricing purposes are not always accounting costs. For the depression phase, the writer did not find any evidence to indicate the kind of costs used for pricing purposes. For this phase of the cycle, there is only the indirect evidence of the existence of informal price maintenance agreements and of legal restrictions against pricing below costs, to indicate that there was a tendency for pricing below "full costs".⁶⁷

An Evaluation of Price Inflexibility As an Accentuating Factor

Even if it is accepted that: (1) price making on the basis of cost is prevalent, (2) the costs used for price-making purposes are the historical costs of the accountant, and (3) rigid costs are a material factor causing rigid prices, the conclusion does not necessarily follow

⁶⁶Kohl, op. cit., p. 140.

⁶⁷See reasoning of Machlup, supra.

that cyclical fluctuations are thereby accentuated. Those who have argued that price-making on the basis of accounting costs contribute to cyclical instability have taken as a basic premise that inflexible prices accentuate business fluctuations. An evaluation of this assumption will now be made.

Cyclical versus structural price flexibility. --Hansen differentiates between structural and cyclical price flexibility.⁶⁸ Structural price flexibility "implies an adjustment of prices to changes in unit costs springing from unequal rates of technological progress in different industries or from shifts in the pattern of wants. . . ."⁶⁹ Structural price rigidity is usually decried for retarding the secular advance in living standards rather than for contributing to cyclical movements. Hansen states: "There is as far as I am aware, no disagreement among economists with respect to the desirability of structural price flexibility. . . ."⁷⁰ Cyclical price flexibility, according to Hansen, "has to do with the sensitivity of prices to fluctuations of the business cycle. . . ."⁷¹ Accounting has been largely associated with the lack

⁶⁸ Alvin H. Hansen, "Price Flexibility and Full Employment of Resources," The Structure of the American Economy, Part II (Washington: U. S. Government Printing Office, June, 1940), p. 27.

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ Ibid.

of this latter type of price flexibility.

Gardiner C. Means set off the controversy over cyclical price inflexibility. -- While the knowledge that certain prices are "sticky" while others are sensitive had been recognized at least since the days of Adam Smith, the basic source of the emphasis on this factor in the last half of the thirties is found in the studies of Gardiner C. Means.⁷²

According to Means, there are two essentially different types of markets in operation--the traditional market in which supply and demand are equated by a flexible price and the administered market in which production and demand are equated at an inflexible administered price. In the first type of market economic adjustments are brought about principally by fluctuations in price. In the second type of market economic adjustments are brought about primarily by changes in volume of production, with price changes being secondary in producing adjustments.⁷³ When the businessman has the power to choose between lowering prices or lowering production, he may decide to maintain prices and curtail production even though this means idle men and idle machines. According to Means, the net effect of business control over industrial

⁷² According to Norman J. Silberling, The Dynamics of Business (New York: McGraw-Hill Book Company, Inc., 1943), pp. 615 f.

⁷³ Means, Industrial Prices and Their Relative Inflexibility, op. cit., p. 1.

policy is "to aggravate any fluctuations in economic activity and prevent any necessary adjustments. . . ." ⁷⁴ In fact, Means states that the "whole depression might be described as a general dropping of prices at the flexible end of the price scale and a dropping of production at the rigid end with intermediate effects between." ⁷⁵ Depression sensitivity of prices has been associated with raw materials, agricultural products, market-dominated prices, nondurable goods, and standard commodities. ⁷⁶ Depression insensitivity of prices has been associated with fabricated products, manufactured goods, administration dominated prices, durable products, and differentiated products.

On the role of price dispersion in economic fluctuations there is far from whole-hearted agreement, however. While admitting that price dispersion is correlated with fluctuations in output and employment, many economists have raised the issue: Which is cause and which effect? Hansen states that: ". . . A mere artificial rectification of the price dispersion may get at the root causes of the decline in income and employment no more than a tampering with the

⁷⁴ Ibid., p. 11.

⁷⁵ Ibid., p. 8.

⁷⁶ National Resources Committee, The Structure of the American Economy, Part I, A Report Prepared by the Industrial Section under the Direction of Gardiner C. Means (Washington: U. S. Government Printing Office, June, 1939), p. 139.

thermometer can change the temperature. . . ." ⁷⁷ Hansen, while admitting that a balanced cost-price structure is favorable to the proper functioning of an economy, states: ". . . it does not necessarily follow that, once forces are at work deranging a balanced cost-price structure, an effort at correction of such price maladjustment per se can be relied upon to improve the rate of business activity. . . ." ⁷⁸ Price dispersion is thus viewed as the result and not the cause of the decline in national income and in employment.

The case against cyclical price flexibility. --Means' findings have been challenged by other economists. Backman studied the price changes of 264 commodities from 1929 to 1933. ⁷⁹ The data were plotted so that a trend downward from left to right would confirm Means' conclusions that inflexible prices are accompanied by sharp curtailment in production while more flexible prices were associated with greater stability in production. Backman concluded: ". . . The data tend slightly downward to the right but within such broad limits as to negate the conclusion that there is a close inverse relationship between price inflexibility and stability of production. . . ." ⁸⁰ Backman also found

⁷⁷Hansen, op. cit., p. 28.

⁷⁸Ibid.

⁷⁹Jules Backman, "Price Inflexibility and Changes in Production," The American Economic Review, September, 1939, p. 482.

⁸⁰Ibid., p. 484.

that commodities which remained unchanged in price from 1929 to 1933 had declined in production ranging from less than one per cent to ninety-three per cent.⁸¹

An effective argument that has been presented against lowering prices as a method of lessening the amplitude and duration of the depression phase is that a reduction in price engenders an expectation of further price drops. One writer has stated that in interpreting current experience there are three basic patterns: (1) to expect things to stay as they are, (2) to expect things to go on changing as they have recently been changing, or (3) to expect things to return to a condition regarded as more nearly "normal" than the recent past.⁸² When prices are stable, the first pattern seems natural. When they are changing, the second applies to short-range forecasts, but the third always remains in the background and rules long-range forecasts. If price stability is associated with things remaining as they are, then it would seem that a stable price level, instead of accentuating swings in production and employment, would tend to stabilize them. Speaking of the Great Depression, Bissell states: ". . . . Perhaps, if the behavior of prices and costs had been more stable, . . . our heroic public spending

⁸¹ Ibid., p. 485.

⁸² Albert Gailord Hart, "Failure and Fulfillment of Expectations in Business Fluctuations," The Review of Economic Statistics, May, 1937, p. 77, n. 2.

would have initiated a sustaining revival.⁸³

It has been pointed out by one writer that the implication that demand, and hence production and employment, would be maintained merely by reducing price during a period of depression is not substantiated if factors other than the price of the product are the primary influence upon demand.⁸⁴ It has been shown that items for which production declined the most from 1929 to 1933 were those whose purchase could be postponed.⁸⁵ Income diverted from this postponement of purchases could have been used to maintain consumption and, hence, production, of those items that were non-durable and whose prices were flexible.⁸⁶ The items designed to satisfy postponable wants declined because those wants were postponable and not because prices were maintained.⁸⁷ Therefore, it may be concluded

⁸³Richard M. Bissell, Jr., "Prices, Costs, and Investment," Papers and Proceedings of the Fifty-third Annual Meeting of the American Economic Association in The American Economic Review, February, 1941, p. 227.

⁸⁴Backman, The American Economic Review, op. cit., p. 481.

⁸⁵Nelson, op. cit., p. 40.

⁸⁶Willard L. Thorpe and Walter F. Crowder, "Concentration and Product Characteristics as Factors in Price-Quantity Behavior," Papers and Proceedings of the Fifty-third Annual Meeting of the American Economic Association in The American Economic Review, February, 1941, p. 405.

⁸⁷Nelson, op. cit., p. 40.

that in some cases the characteristics of the products rather than the inflexible prices, may account for the greater fluctuation in the production of certain goods.

If the view is taken that business fluctuations are primarily the result of the rise and fall of investment expenditures, then for a fall in price to be effective in stemming deflation, there must be a stimulating effect upon investment. In line with the third basic pattern of Hart,⁸⁸ if price changes are to stimulate investment, then present prices must be low relative to expected future prices which are considered to be "normal". It is in this sense that a drastic price cut, which is expected to be final, is thought by some writers to be stimulating to consumption and through the accelerator principle also to investment. However, not all economists believe that even drastic price cuts at the beginning of a depression will have any effect on arresting the fall in national income but believe that price cuts in capital goods toward the end of the depression phase may be stimulating to investment.⁸⁹ Price cuts at the beginning of the downswing, on the other hand, will cause purchasing decisions to be postponed, aggregate demand to fall off, and the amount of unemployment to be increased still further. Many entrepreneurs and consumers will be more inclined to

⁸⁸ See discussion, supra.

⁸⁹ Hansen, op. cit., p. 30.

increase cash balances than to increase expenditures.

In discussing price and production relationships it is often assumed that national income remains constant. On this assumption, a reduction in prices could be expected to lead to an increase in aggregate demand and hence to increased output.⁹⁰ Prices, however, not only represent costs to those with incomes to spend but they also represent income to those who have commodities, or services to sell. The effect that a given price cut will have on the total expenditure for a product will depend upon the elasticity of demand for the product. However, products for which demand is subject to the widest cyclical fluctuations also have a relatively inelastic demand schedule and thus the opportunity for stabilizing output by destabilizing prices is greatly diminished.⁹¹

Since the outbreak of the Second World War, the controversy over price flexibility and its relationship to business fluctuations has remained dormant. In fact, during the forties the stable prices have been regarded with some esteem while flexible prices have been viewed with alarm and there has been a "tendency to regard the cyclically inflexible prices as a stabilizing influence in the cycle. . . ."⁹²

⁹⁰ See statement of Samuel J. Broad, supra.

⁹¹ Burns, The Decline of Competition, op. cit., p. 245.

⁹² J. K. Galbraith, "Monopoly and the Concentration of

In summary, while economists have agreed on the desirability of structural price flexibility, there has been no such general agreement on cyclical price flexibility. The findings of Means have been questioned by other economists who have made additional statistical studies. Means' study did not answer the crucial question of whether the decline in output of the inflexibly priced products would have been less during the Great Depression if the prices of these products had been more flexible. While it is recognized that no study could have been expected to furnish an answer to this question, some later writers seemed to have assigned greater weight to the results than was merited. In general, the products whose demand has varied widely cyclically are those with inelastic demand schedules. In recent years there seems to be a tendency to regard stable prices with more favor than formerly. It is recognized that these years cover a period of prosperity and hence, stable prices might be regarded with much less favor during a future period of business decline.

Conclusions on the Cyclical Implications of
the Effect of Accounting Methodology
on Pricing Decisions

The theory that accounting methods accentuate business fluctuations by influencing price making decisions of businessmen is based

on three main postulates: (1) that certain prices are relatively stable throughout the cycle; (2) these prices are largely based on accounting costs which are cyclically inflexible; and (3) inflexible prices accentuate the business cycle.

The degree of price rigidity itself is a debatable question. The real price paid by the buyer may differ considerably from the list price. However, this is only a partial explanation of observed price rigidity.

Price-making on the basis of costs is most applicable to oligopolistic markets. Even under conditions of oligopoly, however, cost is only one factor in price making. Cost-plus formulas are modified for changing conditions of demand and for competition. Even though it is admitted that traditional accounting costs are cyclically inflexible, there is evidence that in recent years the costs used for price making purposes are not always accounting costs but are often replacement costs. During the depression years no evidence was found as to the nature of costs used for price making purposes.

Even if it is admitted that: (1) price rigidity is a fact; (2) prices under conditions of oligopoly are cost-plus prices; (3) costs used for price making purposes are average total costs as computed by accounting methods; and (4) rigid costs are one of the principal explanations of price inflexibility, the role of price inflexibility itself as an accentuating factor in business fluctuations is an unsettled one.

Therefore, at the present time, it cannot be confirmed nor denied that accounting methods accentuate business fluctuations by influencing pricing decisions.

CHAPTER IX

A SUMMARY OF THE MAIN CONCLUSIONS

In the first chapter the primary purpose of this study and a corollary to the main purpose were set forth. A statement of each purpose is now repeated and the conclusions relative to each are stated.

The primary purpose. --The object was to try to determine if accounting, as generally practiced, is capable--given certain assumptions--of affecting business decisions relative to investment, dividend policy, wages, and prices in such a way as to accentuate business fluctuations on both the upswing and the downswing, as is rather frequently alleged, and to determine if the underlying assumptions seem realistic, given the institutional framework within which modern business operates.

Aside from net foreign investment and governmental expenditures, any discussion of an accentuating factor must be in terms of its effect upon business investment expenditures and consumers' expenditures. The thesis that business fluctuations are primarily

the result of the changes in business expenditures is accepted.

If the income tax structure and technological changes are ignored, then accounting methodology accentuates business fluctuations if it is assumed: (1) businessmen attempt to invest in such a way as to maximize expected profits; (2) past profits as measured by accounting techniques are accepted in lieu of expected profits; and (3) businessmen misinterpret profits as reported by the accountant in such a way that they are inclined to overinvest during the upswing and under-invest during the downswing.

The first assumption is considered valid from a long-run point of view but only partially true in the short-run in the large, widely-held corporation. Studies on investment behavior, especially in the larger corporation, have shown that current sales and prospective sales are given far more frequently than profit as a basis for investment decisions. However, it is likely that sales may be associated with profit in the thinking of the businessman.

While ex-post profits, as determined by accounting methods, appear to be taken into consideration in the making of investment decisions, the evidence indicates that expected profits are not merely the projection of these past profits, as is so often implied. It is not possible, at present, to judge the relative weight assigned by the businessman to past profits, expected profits, and any other factors which

he takes into consideration in making investment decisions.

The assumption that businessmen, especially in the large corporations, are misled by the "misstatement" of profit due to accounting methods is unwarranted. It is agreed by most writers that accounting methodology as an accentuating factor via investment decisions depends largely on the validity of this third assumption. Hence, even after abstracting away technological improvements and the corporate income tax structure, the proposition that accounting methods accentuate business fluctuations by unduly influencing investment decisions cannot be wholeheartedly accepted.

In a dynamic economy, much investment takes place as a result of technological change. Much of this investment is said to be autonomous. To the extent that this is true, short-run profits as measured by accounting methods would not be a factor in making these investment decisions.

Assuming that the same accounting methods are used for general reporting purposes and for income tax purposes, the spread between after-tax profits as computed by traditional accounting methods and methods proposed for stabilizing profits cyclically, is narrowed considerably. Furthermore, the higher the tax rate, the more nearly equal the after-tax profits become. Therefore, even assuming accounting profits are a factor in investment decisions, to the extent that

it is profits after tax that are considered in making investment decisions, the variance between the amount of investment made as a result of the alternative accounting methods will not be as great as at first supposed.

Thus in a dynamic economy, with high corporate income tax rates, ex-post profits as a factor in making investment decisions should be assigned even less weight than in a static economy without corporate income taxes.

The propositions that accounting profits unduly influence security prices and that security prices, in turn, influence investment decisions, may be true at times. However, the evidence indicates that these links between reported profits and investment expenditures are not as strong as are often supposed.

The reluctance of the businessman to "take a loss" by writing off the larger undepreciated balance of an old asset resulting from the use of the straight-line method is often used as an argument for accelerated depreciation. The argument is thus a negative one: Straight-line depreciation is a deterrent to investment. When accelerated depreciation is used for income tax purposes, the argument becomes a positive one: The saving in income tax is stimulating to investment. The positive argument appears to be the valid one. To the extent that this is true, it is not the psychological effect of accounting methodology that is stimulating to investment, but instead, the tax policy of the

government.

Thus, while the theory that accounting methodology accentuates business fluctuations by influencing business investment expenditures cannot be completely invalidated, this aspect of accounting methodology as an accentuating factor has been unduly emphasized.

Accounting methods are alleged to affect consumption expenditures, as well as investment expenditures. It is reasoned that depreciation expense is included in sales price and this expense may not have an immediate offsetting expenditure. This argument is confined to the depression phase. The validity of this contention depends on whether the recording of this excessive depreciation causes the corporate system to take more revenue from outside the system, or to pay out less as dividends and wages, than would be done if the amount of this expense were more "realistic". Since this "excessive" depreciation would not be likely to affect wage policy, the soundness of the argument depends largely upon its effects on dividend disbursements. The study shows that dividends per year have not closely followed reported profits per year. Even if dividend policy is guided by reported profits, the conclusion that the cycle is thereby accentuated due to the effect on consumption does not necessarily follow. Since the recipients of dividends are, in general, the large savers, the effect on consumption of varying amounts of dividend payments is probably

negligible.

It is admitted that higher wages were a factor which added to the postwar inflationary spiral. In so far as accounting methods contributed to the ease of securing these wage increases by organized labor, it can be said that accounting methods accentuated the upswing. However, the study shows that the "ability-to-pay" criterion, which links the increased wages with accounting methodology, was not taken seriously by organized labor. However, it is possible that high reported profits may have affected the atmosphere in which postwar collective bargaining took place, but it is not possible from this study to say to what extent. Due to the traditional distrust of accounting statements by the leaders of organized labor, it is likely that any accounting techniques that would have resulted in smaller reported profits would have been acclaimed by them as just another device for hiding "excessive" profits. Therefore, it is unlikely that wage demands would have been reduced by a change in accounting methods designed to stabilize profits cyclically.

The theory that accounting methodology accentuates business fluctuations by influencing business pricing policies depends on three postulates: (1) certain prices are not cyclically flexible; (2) these prices are largely based on accounting costs which are inflexible cyclically; and (3) inflexible prices accentuate the cycle. It has been

found that the degree of price flexibility is itself a debatable question. Price-making on the basis of cost is most applicable to oligopolistic markets, but even here, cost is only one factor which is considered in setting price. For the depression phase, no evidence was found to substantiate or refute the claim that accounting costs are those widely used in price setting. Thus it may be possible that the use of accounting costs may be one factor contributing to the reluctance of businessmen to lower prices, especially in oligopolistic markets during depression. However, the role of price flexibility itself as a factor in business fluctuations is an unsettled one. Thus, in so far as price inflexibility accentuates business fluctuations, there is some reason to believe that accounting methodology is a contributing factor.

A corollary to the main purpose. --An attempt was made to determine if there have been changes in the institutional arrangement, or in accounting techniques, since Schmidt's day that would tend to modify the significance of accounting methodology as an accentuating factor in business fluctuations.

Since Schmidt wrote his treatise in 1927, there have been changes in both the institutional arrangement within which business operates, and in accounting techniques, that would tend to weaken accounting methodology as an accentuating factor in making business investment decisions.

Assuming that the same accounting methods are used for computing profits, both for profit reporting and for income tax purposes, it was mentioned earlier that the higher the tax rate, the smaller the spread between profits, after tax, when computed by traditional methods, and methods which partially iron out cyclical fluctuations in profits. Income tax rates have increased enormously since the time of Schmidt's writings. Therefore, this increase in tax rates constitutes a factor which decreases the importance of accounting methodology as an accentuating factor. Since governmental expenditures are largely independent of the methods of accounting used by business firms, it follows that an increase in the proportion of total expenditures made by governmental units constitutes an institutional arrangement which tends to weaken accounting methodology as an accentuating factor.

The increasing use of LIFO by business firms as the method of inventory valuation represents a change in accounting techniques which would tend to weaken accounting methodology as an accentuating factor. Furthermore, the use of this method is concentrated in the larger corporations, especially those in which the value of inventories is sizable, which gives to this factor a significance not indicated by reference to the number of companies using it. Moreover, the nature of accounting profits is now better understood by businessmen than at the time of Schmidt's writings. This fact has decreased any tendency of the

businessman to overinvest during the upswing and to underinvest during the downswing as a result of the "misstatement" of profits by accounting methods.

Concluding remarks. --Both the degree of competition and the size of the business unit are factors which have a bearing on the proposition that accounting methodology accentuates business fluctuations. It is the assumption of competition which gives profit maximization its a priori plausibility. The nearer a firm approaches the competitive pattern, the stronger the profit motive; the strong the profit motive, the closer the tie between accounting methods and business investment decisions. Since the demand curve is known under pure competition, the entrepreneur tends to focus his attention on output and cost calculations. Since it is accounting cost calculations which are said to be misleading, it follows that the more crucial these calculations become, the greater the weight which should be assigned to accounting methodology as a factor in making business investment decisions. However, under oligopoly, the possibility exists that, even in the short-run, accounting costs affect selling prices. Selling prices may affect the volume of sales which, in turn, affects investment.

The possibility that accounting methodology influences business investment decisions is, in general, more remote in the larger corporation than in the smaller one. The study has shown that

investment decisions in the large corporations tend to be group decisions in which engineers, economists, and accountants, as well as others, participate. Hence no one method of calculation nor one pattern of thinking is likely to prevail. It has also been shown that large corporations have most of the research facilities. As a result, it is the large firm from which autonomous investment can be expected. In the larger corporation, the profit motive, especially in the short-run, tends to be less direct than in the smaller firm. The fact that the larger corporations will, in general, be less competitive than the smaller firms also makes the profit motive, in the short-run, less direct in the larger corporation.

At present, very little is known as to what factors are considered by the businessman in making investment decisions. Even less is known as to the relative weights assigned by him to the factors which he does consider in making these decisions. So far, the studies on investment behavior have been only pilot studies. Furthermore, most of this investigation has been done since 1940, and is, therefore, applicable only to the prosperity phase of the cycle. The controversy over price flexibility as a factor in business fluctuations is also an unsettled one. Until more light is shed on these three problems, the possibility that, on balance, accounting methodology may accentuate business fluctuations should not be completely brushed aside.

However, despite the fact that the majority of writers who have touched on the subject believe that accounting methodology does accentuate business fluctuations, the evidence, at present, does not support the theory.

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This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Business Administration and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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